FOM as a function of frequency (cycles/frame)
Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;

Backprojection (perfect frames)
Backprojection (realistic frames)
Backprojection (interpolated frames)

Mean

TAR
30
20
10
0

PE
0.02
0
-0.02
-0.04
-0.06

RES
0.25
0.2

SD
0.2
0.1
0
0.6
0.4

RNG
10^{-2}
10^{-1}
Frequency (cycles/frame)

Backprojection (perfect frames)
Backprojection (realistic frames)
Backprojection (interpolated frames)

Standard Deviation

30
20
10
0
0.2
0.1
0
x 10^{-3}
5
0
0.2
0.1
0
0.2
0.1
0
10^{-2}
10^{-1}
Frequency (cycles/frame)

FOM as a function of hyperparameter

Frequency = 0.1; Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;

Backprojection (perfect frames)
Backprojection (realistic frames)
Backprojection (interpolated frames)

Mean

Standard Deviation

TAR

PE

RES

SD

RNG

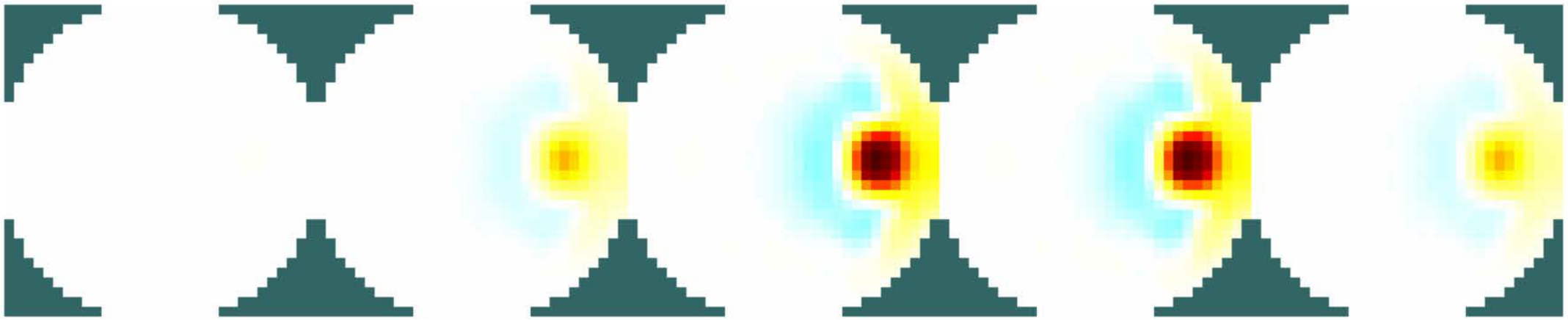
hyperparameter

x 10^{-3}

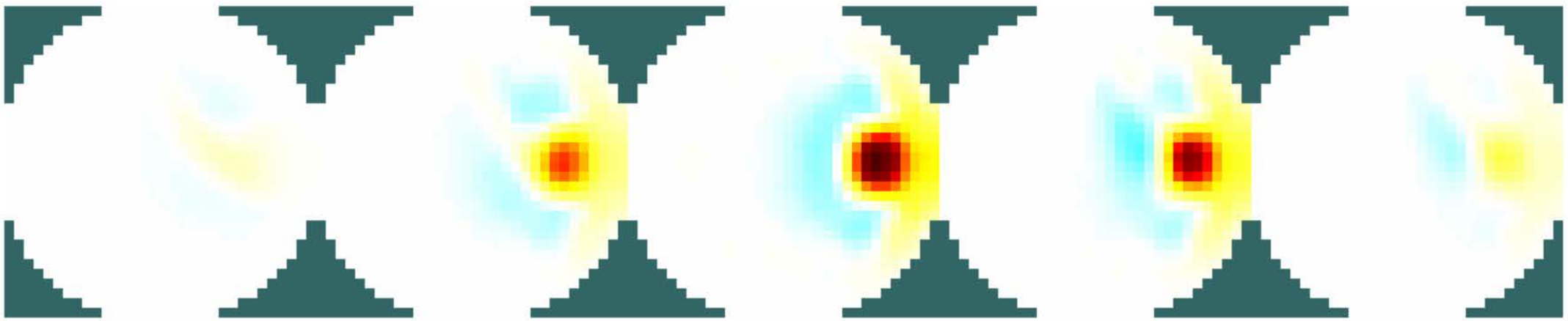
FOM as a function of time

Frequency = 0.2; Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;

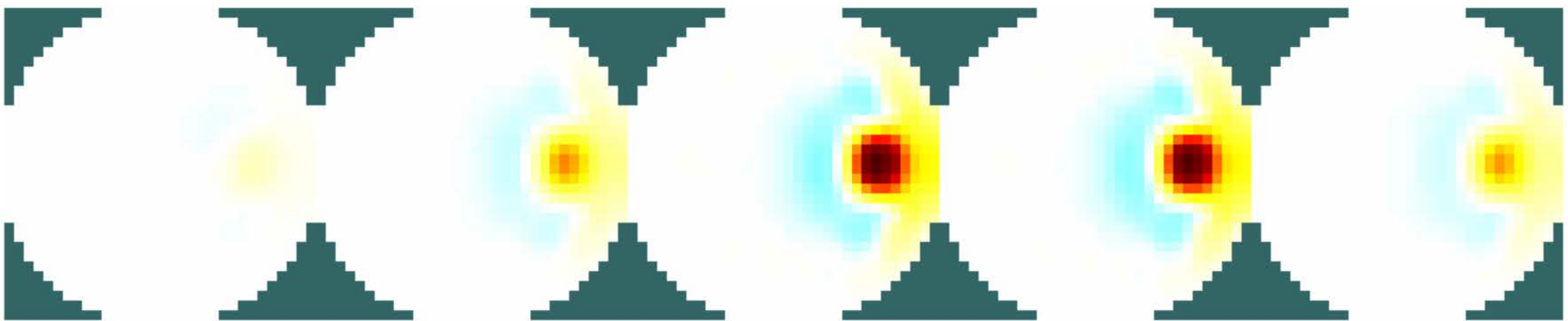
Backprojection (perfect frames)



Backprojection (realistic frames)



Backprojection (interpolated frames)



FOM as a function of number of cycles
Frequency = 0.1; Radius = 0.666667; Phase = 0; SNR = Inf;

Backprojection (perfect frames)
Backprojection (realistic frames)
Backprojection (interpolated frames)

Mean

TAR
2
1.5
1

PE
-0.04
-0.06

RES
0.25
0.2

SD
0.2
0.1
0

RNG
0.5
0.4
0.3

5 10 15 20 25 30
Number of Cycles

Backprojection (perfect frames)
Backprojection (realistic frames)
Backprojection (interpolated frames)

Standard Deviation

0.5
0

0.05
0

x 10^{-3}
4
2
0

0.05
0

0.05
0

5 10 15 20 25 30
Number of Cycles

FOM as a function of phase (radians)
Frequency = 0.1; Radius = 0.666667; Number of cycles = 4; SNR = Inf;

Backprojection (perfect frames)
Backprojection (realistic frames)
Backprojection (interpolated frames)

Mean

TAR
2
1.5
1

PE
-0.04
-0.06

RES
0.25
0.2

SD
0.2
0.1
0

RNG
0.5
0.4
0.3

0
100
200
300
Phase (degrees)

Backprojection (perfect frames)
Backprojection (realistic frames)
Backprojection (interpolated frames)

Standard Deviation

1
0.5
0

0.05
0

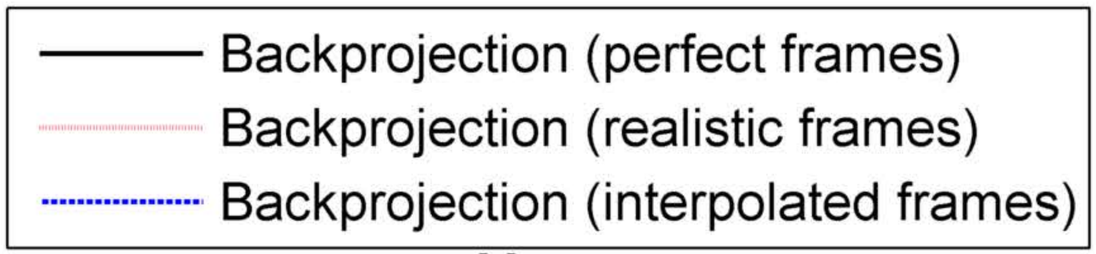
x 10^-3
5
0

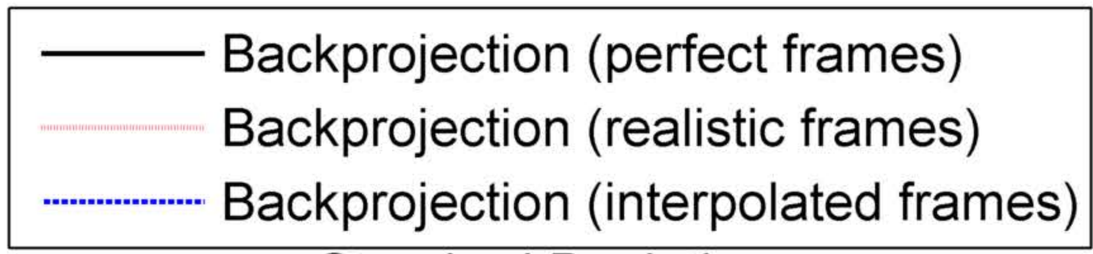
0.05
0

0.05
0

0
100
200
300
Phase (degrees)

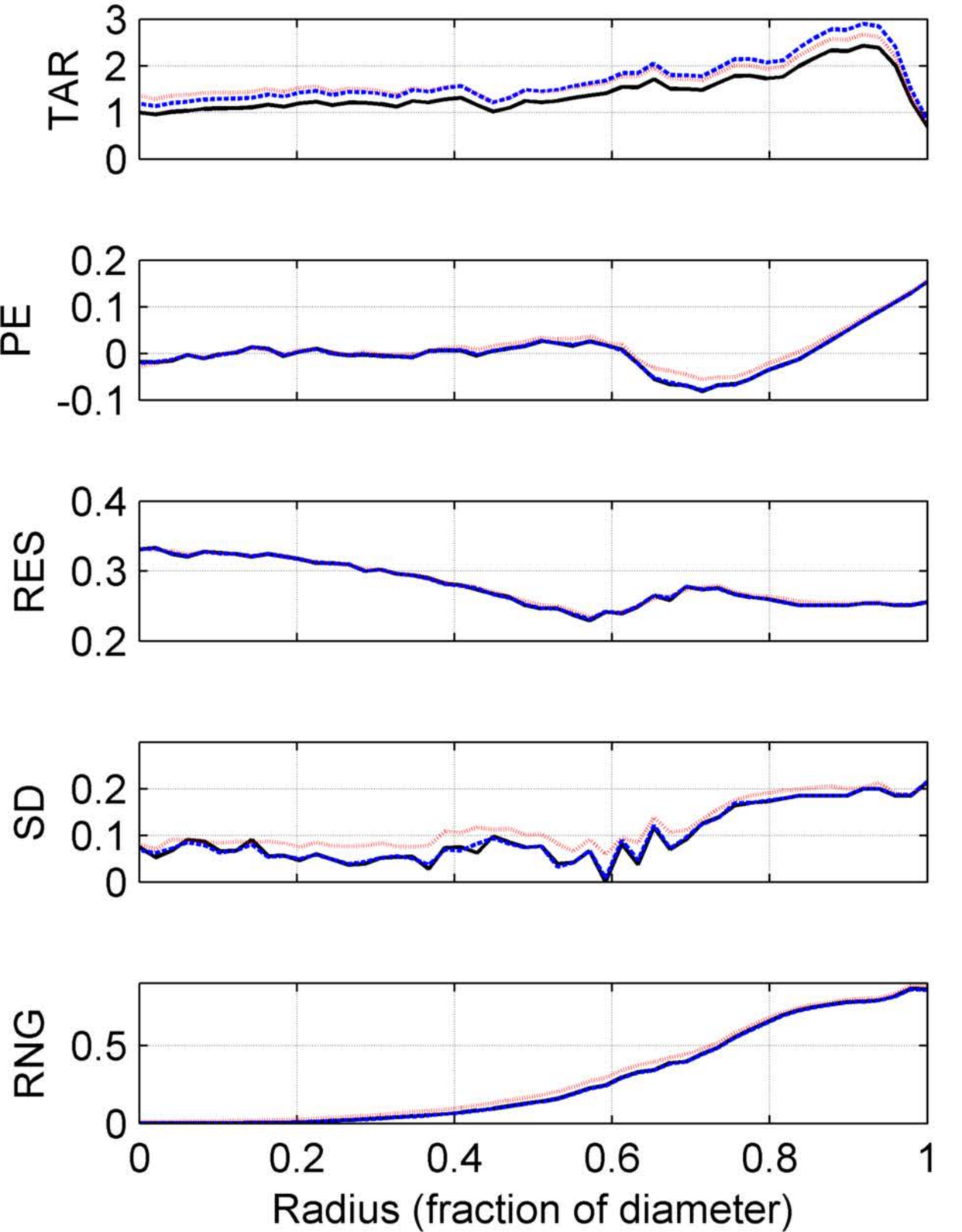
FOM as a function of radius (fraction of diameter)
Frequency = 0.1; Phase = 0; Number of cycles = 4; SNR = Inf;

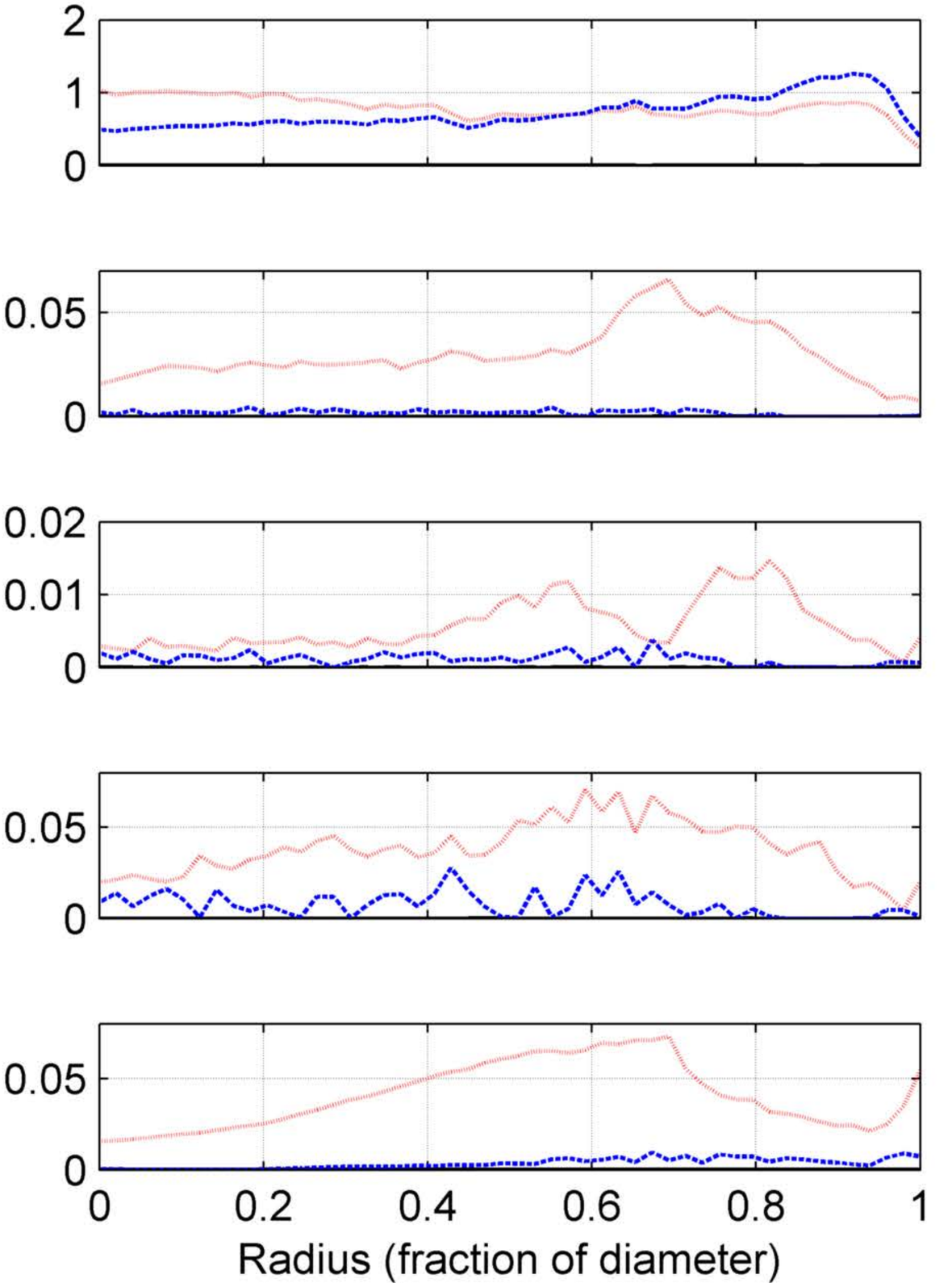




Mean

Standard Deviation





FOM as a function of SNR

Frequency = 0; Radius = 0.666667; Phase = 0; Number of cycles = 100;

Backprojection (perfect frames)
Backprojection (realistic frames)
Backprojection (interpolated frames)

Mean

TAR
30
20
10
0
-10

PE
0.4
0.2
0
RES
0.4
0.3
0.2
SD
0.5
0
RNG
2
1
0
10^{-1} 10^{0} 10^{1} 10^{2} 10^{3} 10^{4}
SNR

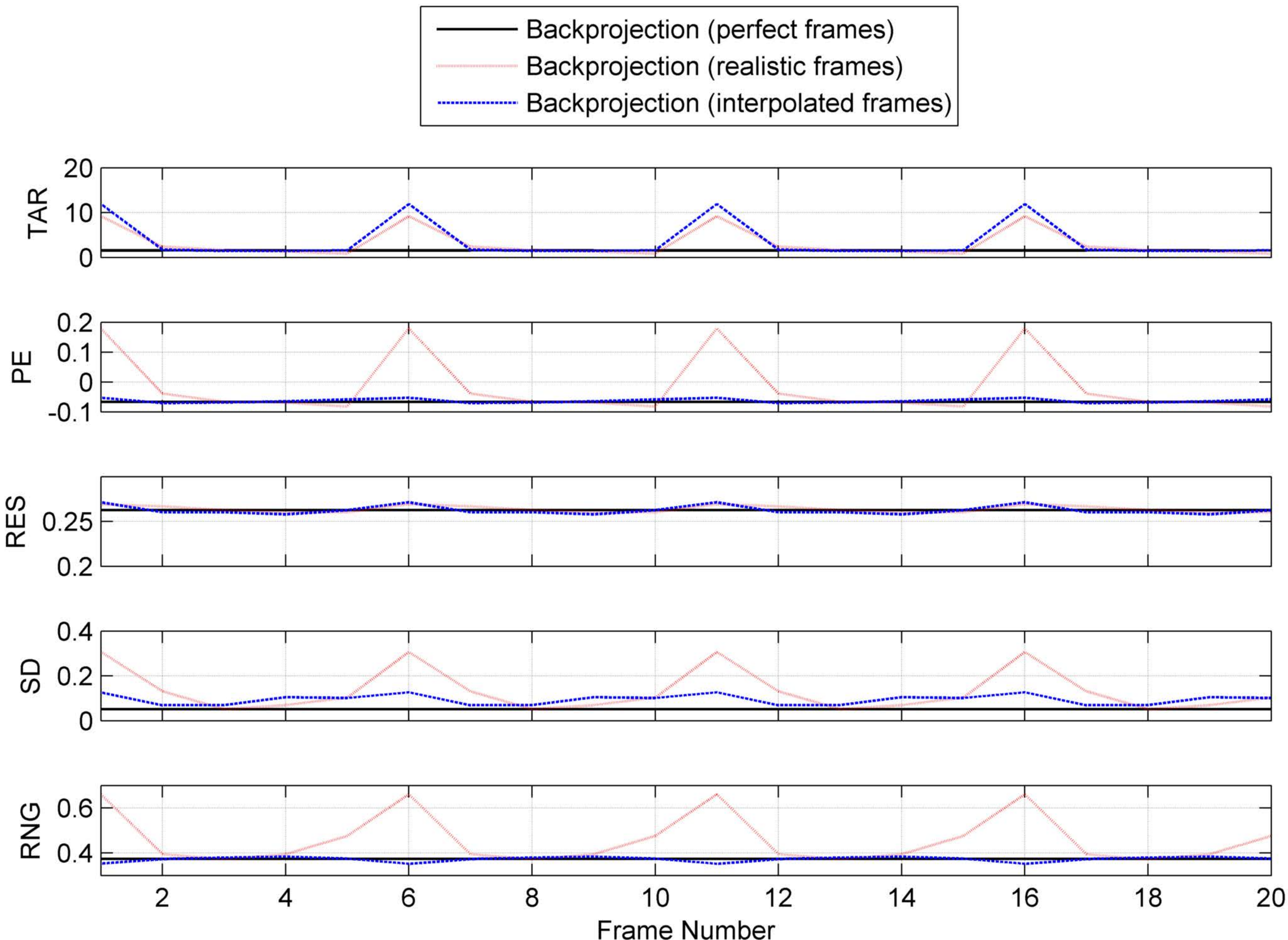
Backprojection (perfect frames)
Backprojection (realistic frames)
Backprojection (interpolated frames)

Standard Deviation

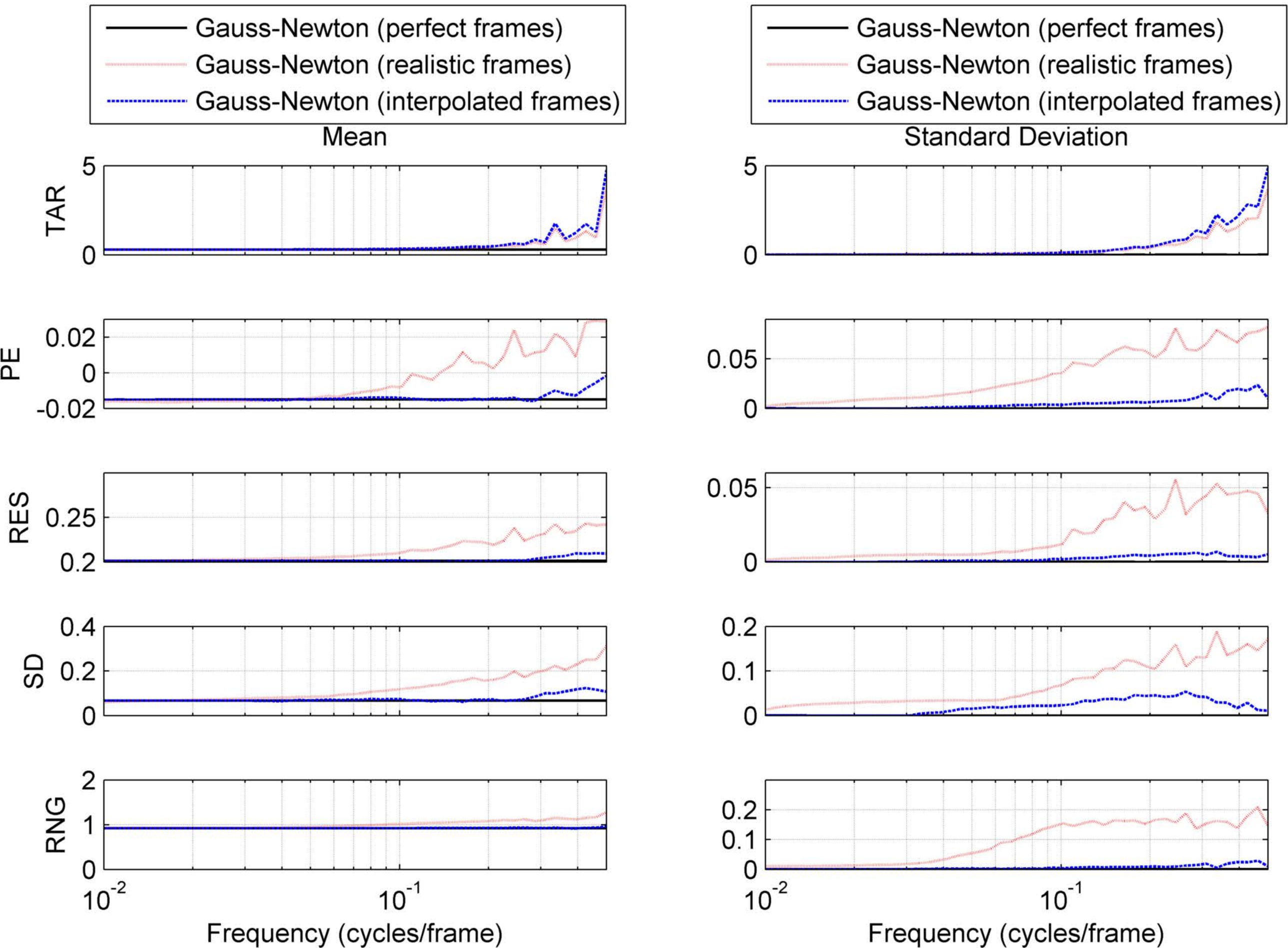
200
100
0
0.05
0
0.05
0
0.2
0.1
0
0.5
0
10^{-1} 10^{0} 10^{1} 10^{2} 10^{3} 10^{4}
SNR

FOM as a function of time

Frequency = 0.2; Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;

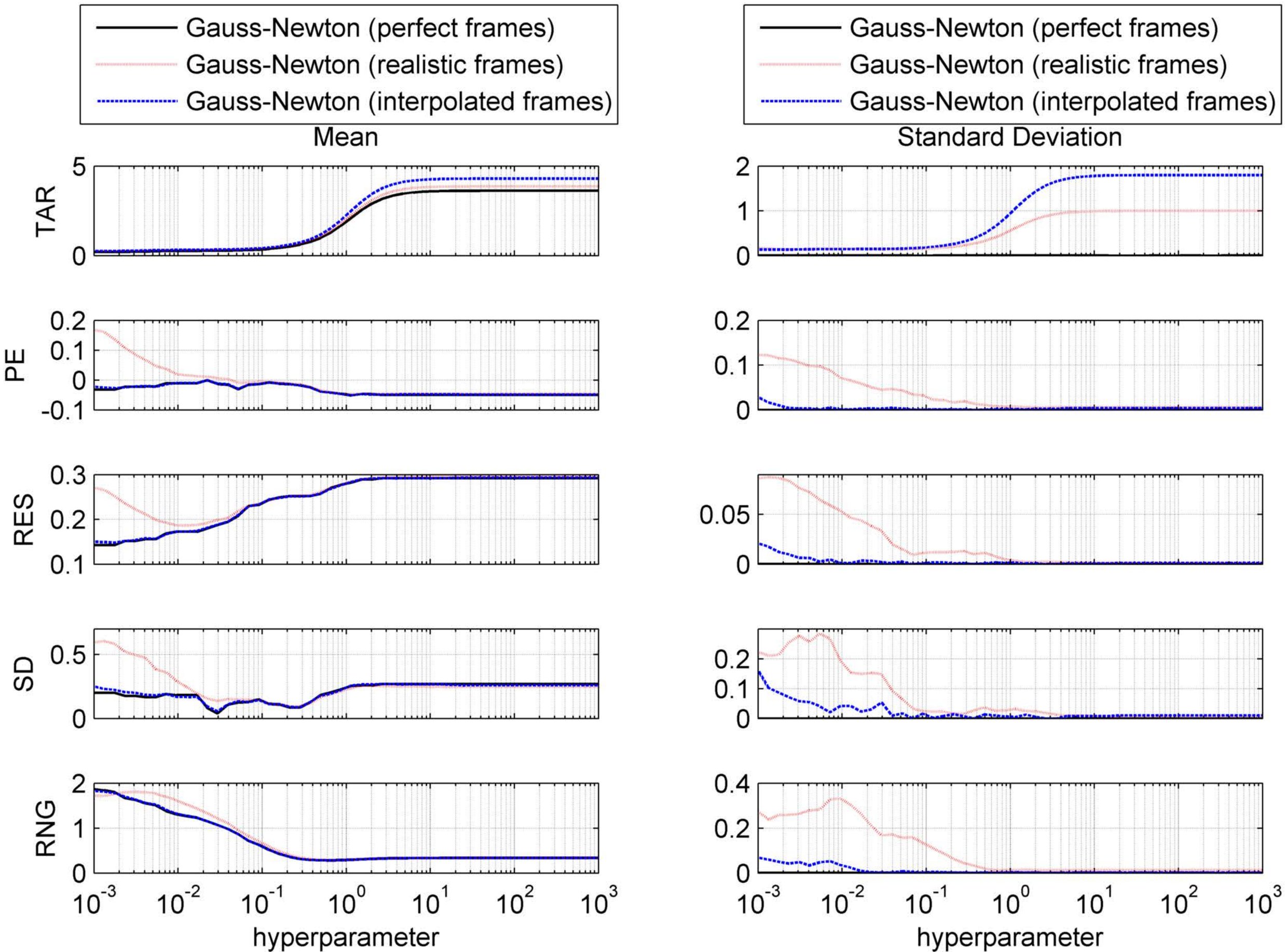


FOM as a function of frequency (cycles/frame)
Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;



FOM as a function of hyperparameter

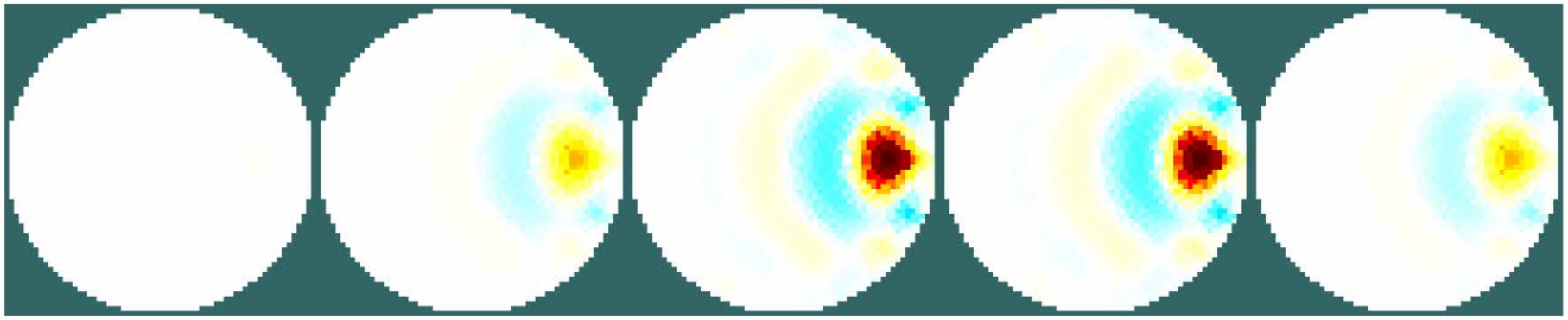
Frequency = 0.1; Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;



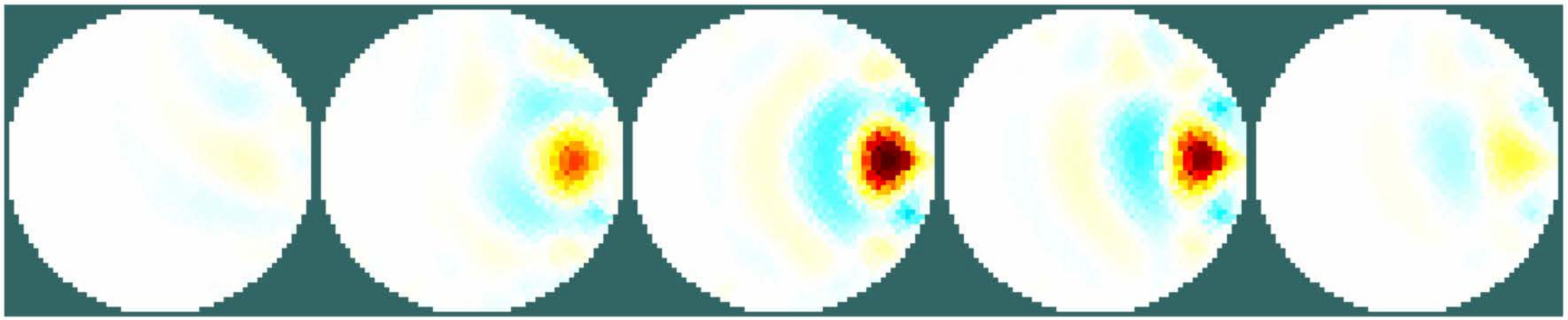
FOM as a function of time

Frequency = 0.2; Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;

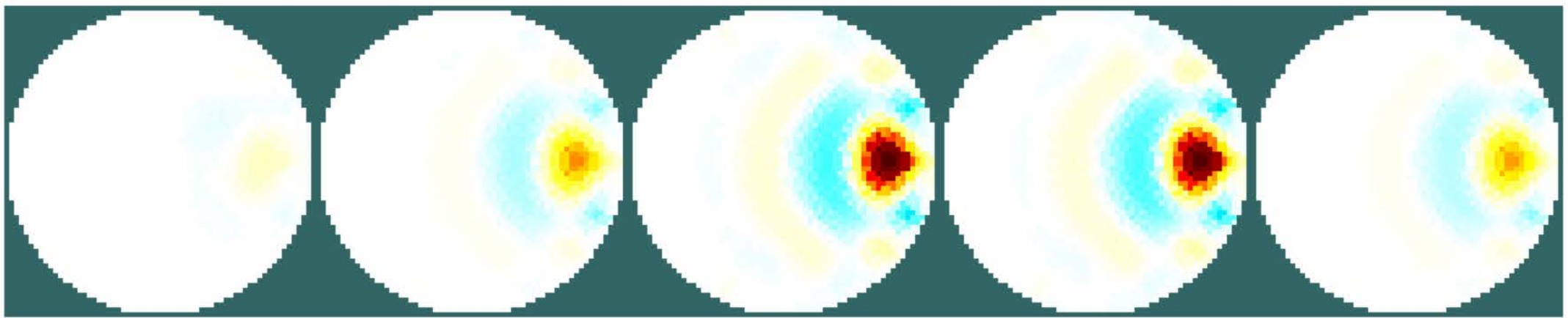
Gauss-Newton (perfect frames)



Gauss-Newton (realistic frames)



Gauss-Newton (interpolated frames)



FOM as a function of number of cycles
Frequency = 0.1; Radius = 0.666667; Phase = 0; SNR = Inf;

Gauss-Newton (perfect frames)
Gauss-Newton (realistic frames)
Gauss-Newton (interpolated frames)

Mean

TAR
0.4
0.3
0.2

PE
0
-0.01
-0.02

RES
0.25
0.2

SD
0.2
0.1
0
RNG
2
1
0
5 10 15 20 25 30
Number of Cycles

Gauss-Newton (perfect frames)
Gauss-Newton (realistic frames)
Gauss-Newton (interpolated frames)

Standard Deviation

0.2
0.1
0

0.05
0

0.02
0.01
0

0.1
0.05
0

0.2
0.1
0
5 10 15 20 25 30
Number of Cycles

FOM as a function of phase (radians)
Frequency = 0.1; Radius = 0.666667; Number of cycles = 4; SNR = Inf;

Gauss-Newton (perfect frames)
Gauss-Newton (realistic frames)
Gauss-Newton (interpolated frames)

Mean

TAR
0.4
0.3
0.2

PE
0
-0.01
-0.02

RES
0.25
0.2

SD
0.2
0.1
0
RNG
2
1
0
0
100
200
300
Phase (degrees)

Gauss-Newton (perfect frames)
Gauss-Newton (realistic frames)
Gauss-Newton (interpolated frames)

Standard Deviation

0.2
0.1
0

0.05
0

0.02
0.01
0

0.1
0.05
0

0.2
0.1
0
0
100
200
300
Phase (degrees)

FOM as a function of radius (fraction of diameter)
Frequency = 0.1; Phase = 0; Number of cycles = 4; SNR = Inf;

Gauss-Newton (perfect frames)
Gauss-Newton (realistic frames)
Gauss-Newton (interpolated frames)

Mean

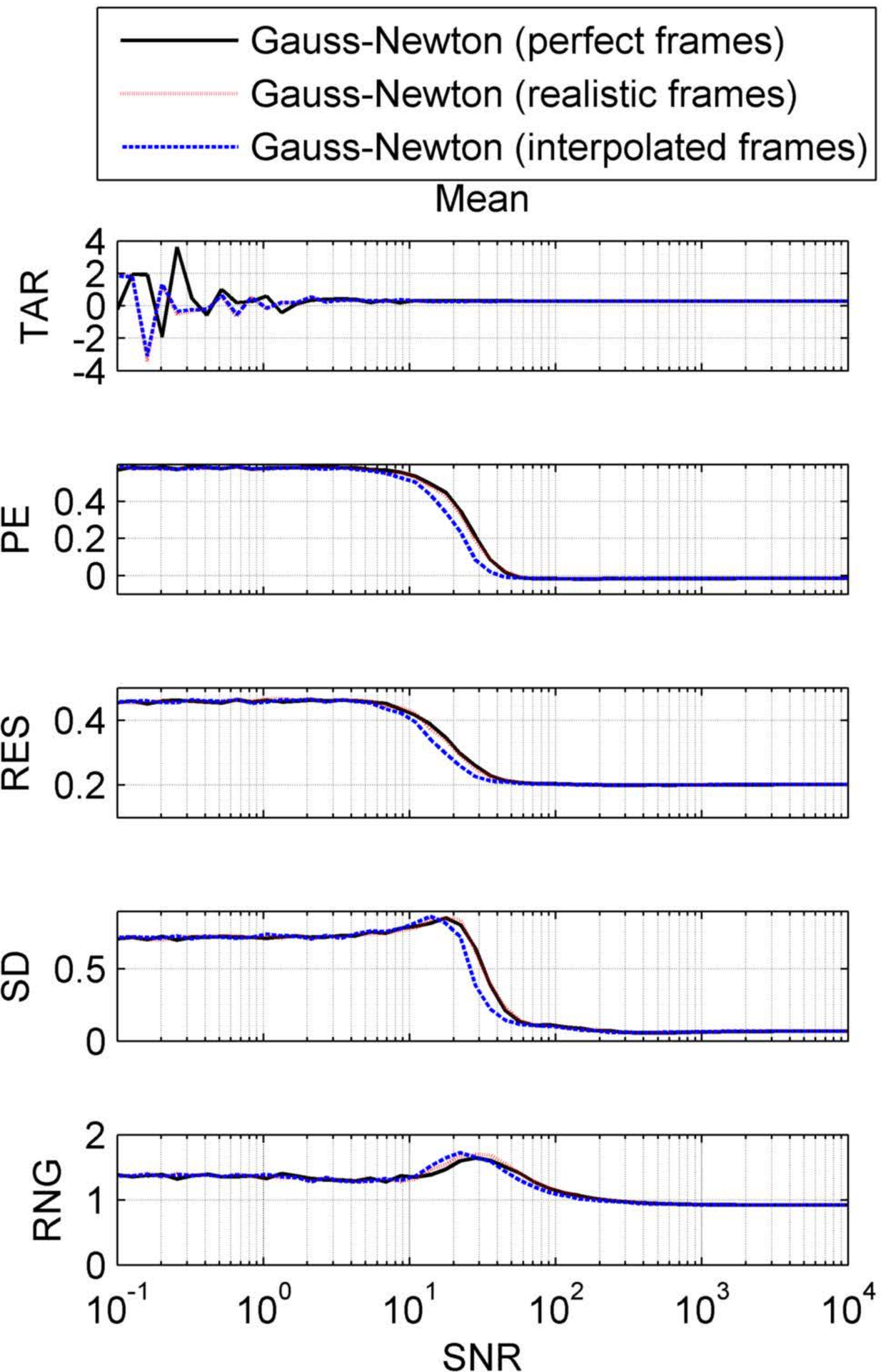
TAR
PE
RES
SD
RNG

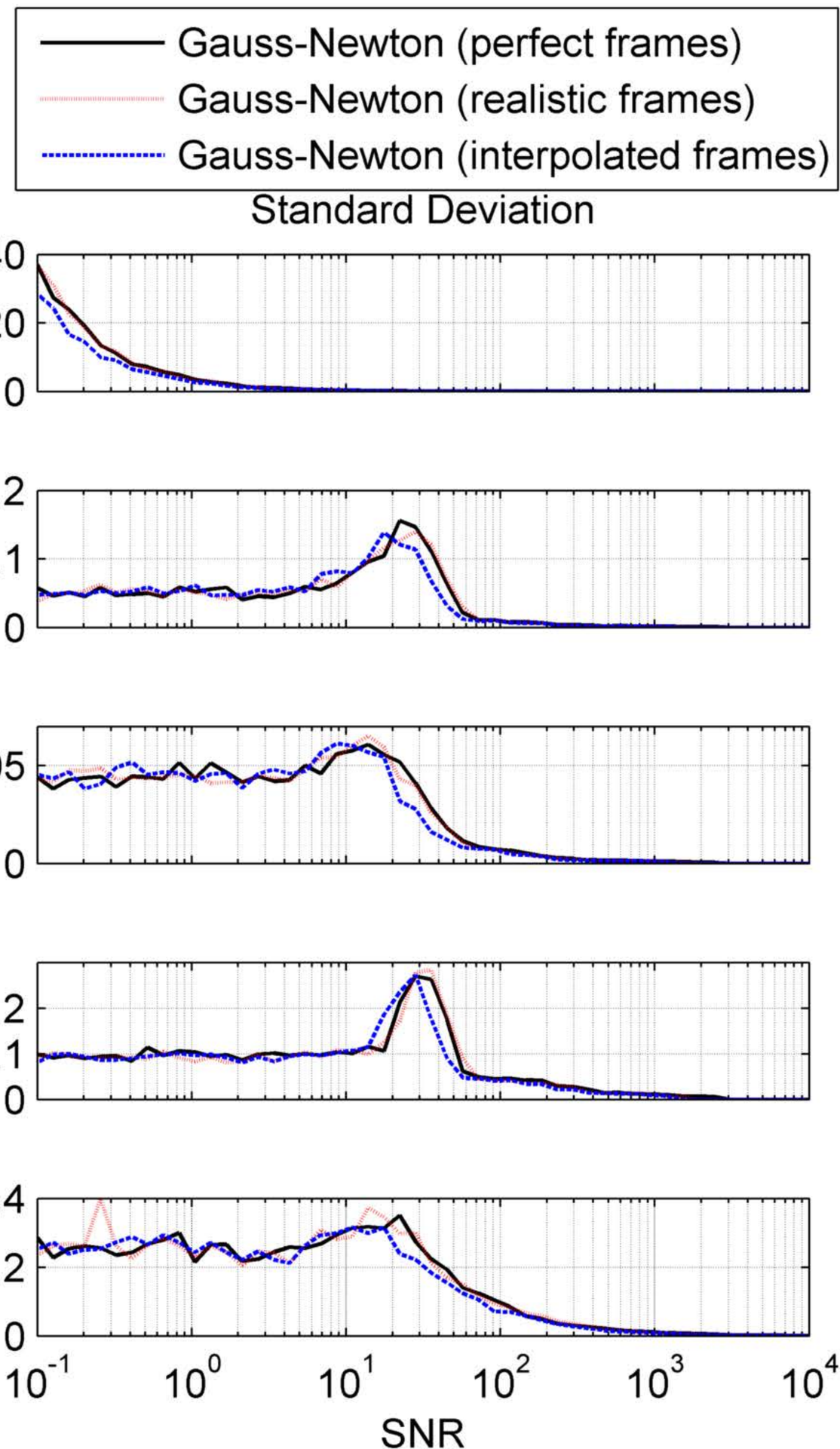
Standard Deviation

Radius (fraction of diameter)

FOM as a function of SNR

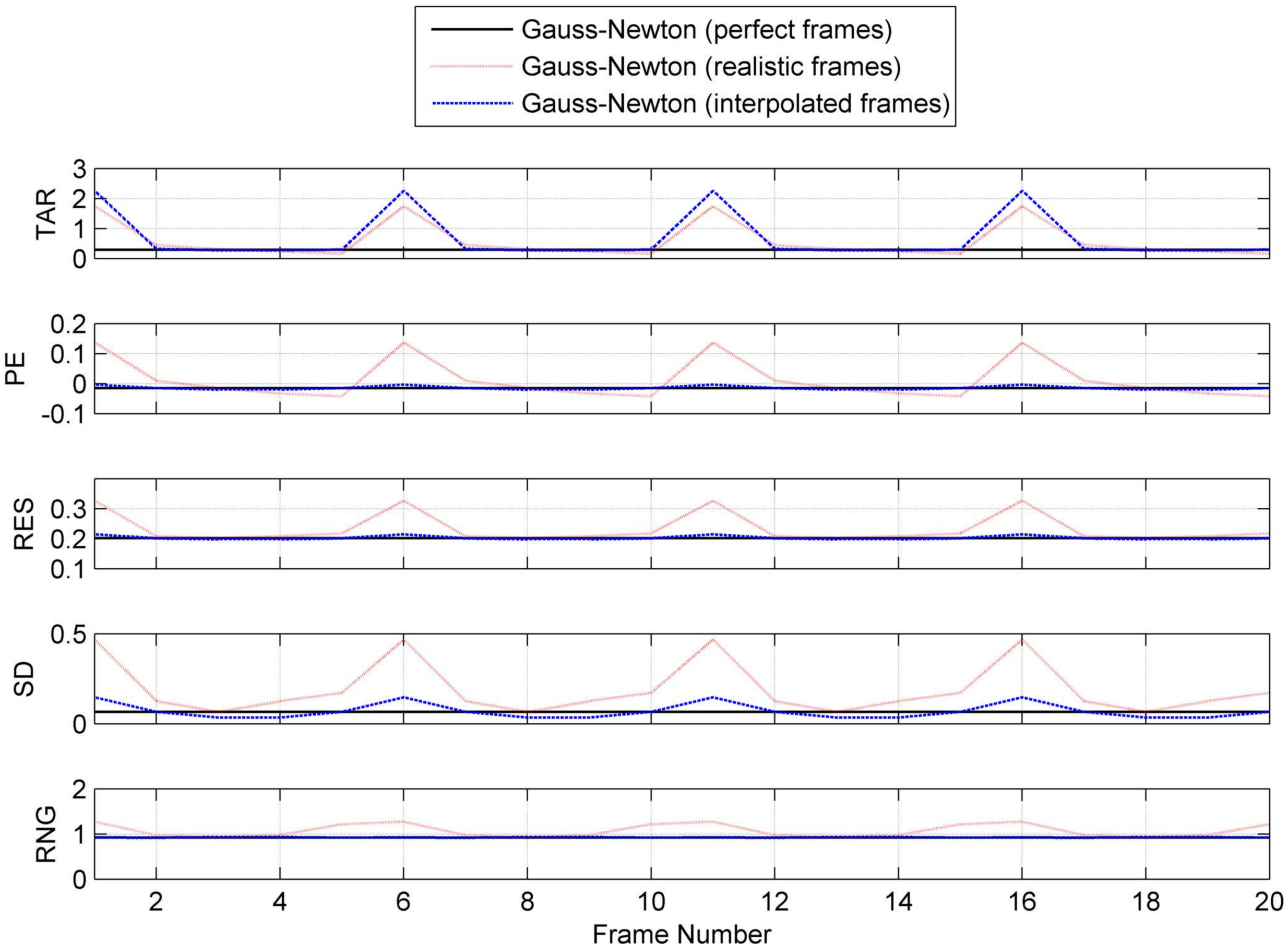
Frequency = 0; Radius = 0.666667; Phase = 0; Number of cycles = 100;





FOM as a function of time

Frequency = 0.2; Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;



FOM as a function of frequency (cycles/frame)
Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;

GREIT (perfect frames)
GREIT (realistic frames)
GREIT (interpolated frames)

Mean

TAR
20
10
0

PE
0.1
0.05
0

RES
0.25
0.2

SD
0.2
0.1
0

RNG
0.6
0.4
0.2

10^{-2} 10^{-1}

Frequency (cycles/frame)

GREIT (perfect frames)
GREIT (realistic frames)
GREIT (interpolated frames)

Standard Deviation

20
10
0

0.2
0.1
0

0.02
0.01
0

0.2
0.1
0

0.4
0.2
0

10^{-2} 10^{-1}

Frequency (cycles/frame)

FOM as a function of hyperparameter

Frequency = 0.1; Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;

GREIT (perfect frames)
GREIT (realistic frames)
GREIT (interpolated frames)

Mean

Standard Deviation

TAR

PE

RES

SD

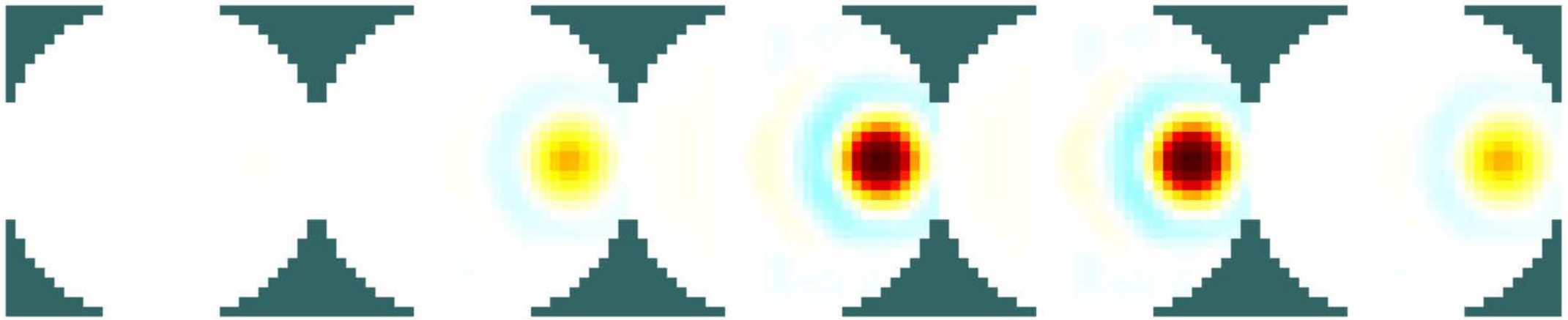
RNG

hyperparameter

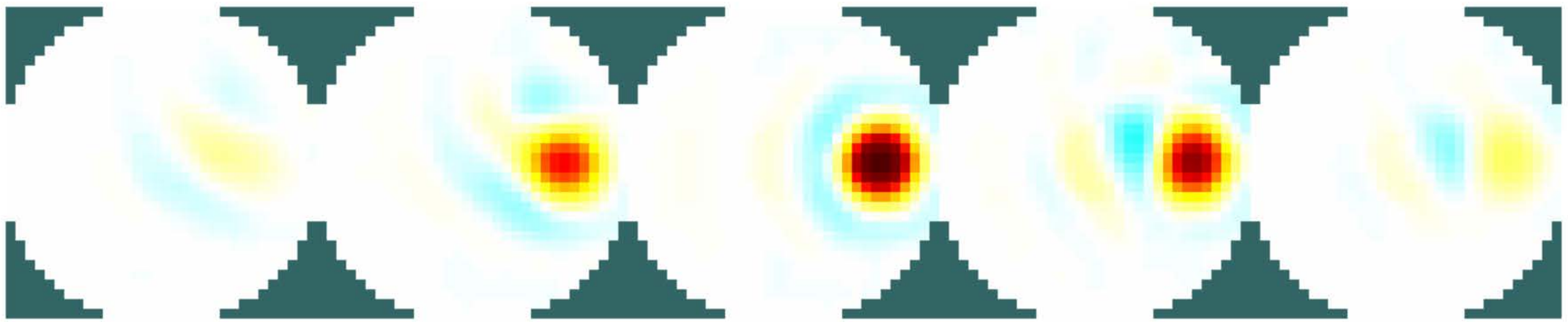
FOM as a function of time

Frequency = 0.2; Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;

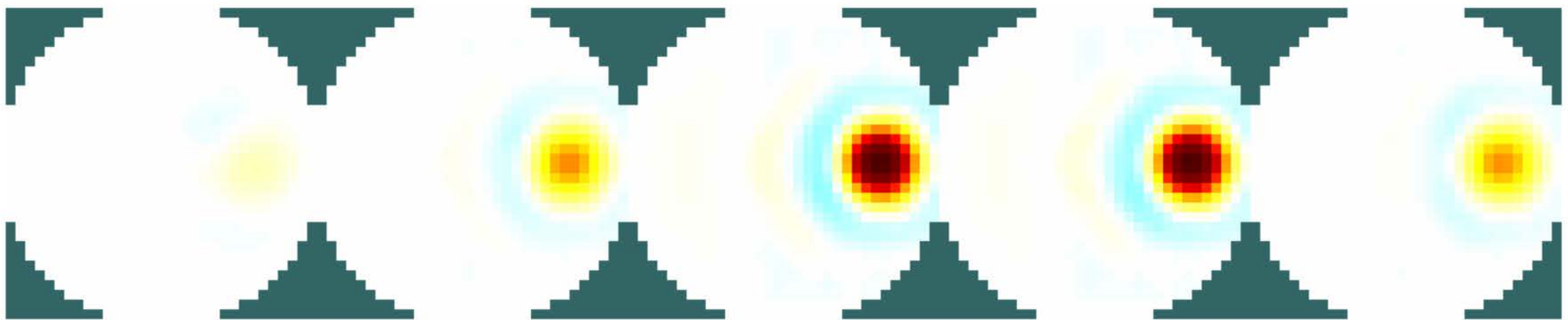
GREIT (perfect frames)



GREIT (realistic frames)



GREIT (interpolated frames)



FOM as a function of number of cycles
Frequency = 0.1; Radius = 0.666667; Phase = 0; SNR = Inf;

GREIT (perfect frames)
GREIT (realistic frames)
GREIT (interpolated frames)

Mean

TAR
PE
RES
SD
RNG

Standard Deviation

Number of Cycles

FOM as a function of phase (radians)
Frequency = 0.1; Radius = 0.666667; Number of cycles = 4; SNR = Inf;

GREIT (perfect frames)
GREIT (realistic frames)
GREIT (interpolated frames)

Mean

TAR
2
1.5
1

PE
0.04
0.02

RES
0.25
0.2

SD
0.1
0.05
0

RNG
0.4
0.3
0.2

0
100
200
300
Phase (degrees)

GREIT (perfect frames)
GREIT (realistic frames)
GREIT (interpolated frames)

Standard Deviation

0.5
0

0.05
0

0.02
0.01
0

0.05
0

0.2
0.1
0

0
100
200
300
Phase (degrees)

FOM as a function of radius (fraction of diameter)
Frequency = 0.1; Phase = 0; Number of cycles = 4; SNR = Inf;

GREIT (perfect frames)
GREIT (realistic frames)
GREIT (interpolated frames)

Mean

TAR
PE
RES
SD
RNG

Standard Deviation

Radius (fraction of diameter)

FOM as a function of SNR

Frequency = 0; Radius = 0.666667; Phase = 0; Number of cycles = 100;

GREIT (perfect frames)
GREIT (realistic frames)
GREIT (interpolated frames)

Mean

TAR
20
0
-20
-40
-60

PE
0.5
0

RES
0.4
0.3
0.2

SD
0.5
0

RNG
2
1
0

10^{-1} 10^{0} 10^{1} 10^{2} 10^{3} 10^{4}

SNR

GREIT (perfect frames)
GREIT (realistic frames)
GREIT (interpolated frames)

Standard Deviation

200
100
0

0.2
0.1
0

0.05
0

0.2
0.1
0

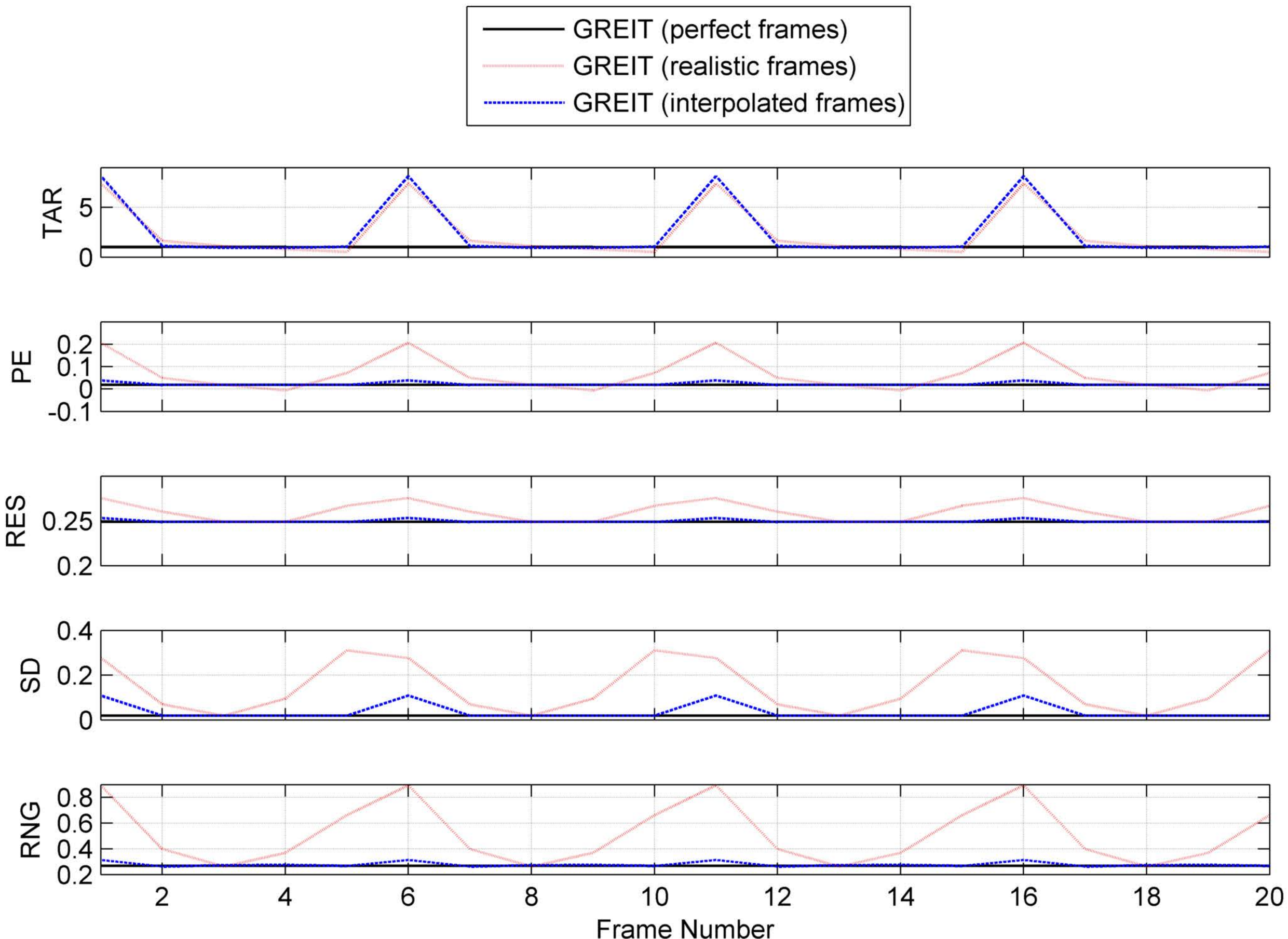
0.5
0

10^{-1} 10^{0} 10^{1} 10^{2} 10^{3} 10^{4}

SNR

FOM as a function of time

Frequency = 0.2; Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;



FOM as a function of frequency (cycles/frame)
Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;

Kalman (perfect frames)
Kalman (realistic frames)
Kalman (interpolated frames)

Mean

TAR
8
6
4
2

PE
-0.04
-0.06

RES
0.3
0.2
0.1

SD
0.2
0.1
0

RNG
2
1
0

10^{-2} 10^{-1}

Frequency (cycles/frame)

Kalman (perfect frames)
Kalman (realistic frames)
Kalman (interpolated frames)

Standard Deviation

8
6
4
2

0.02
0.01
0

x 10^{-3}
5
0

0.04
0.02
0

0.2
0.1
0

10^{-2} 10^{-1}

Frequency (cycles/frame)

FOM as a function of hyperparameter

Frequency = 0.1; Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;

Kalman (perfect frames)
Kalman (realistic frames)
Kalman (interpolated frames)

Mean

Standard Deviation

TAR

PE

RES

SD

RNG

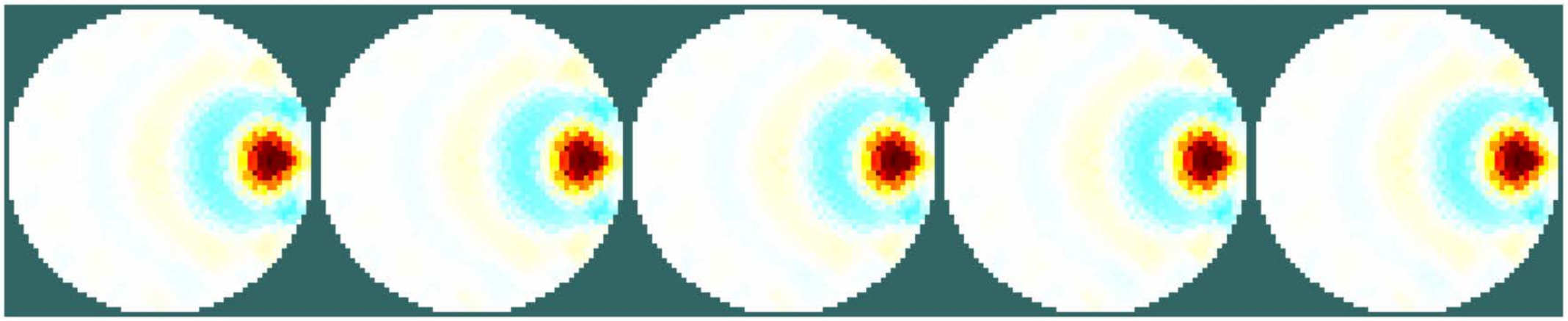
hyperparameter

hyperparameter

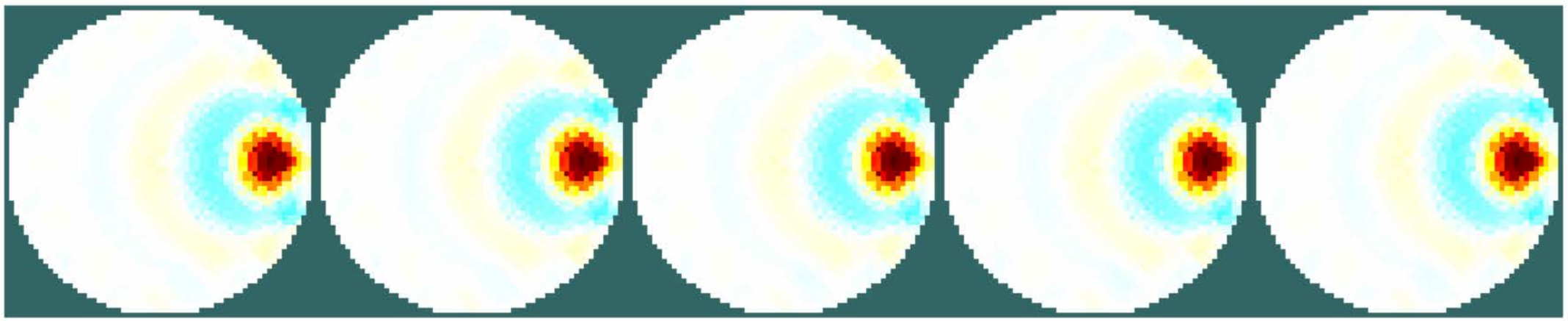
FOM as a function of time

Frequency = 0.2; Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;

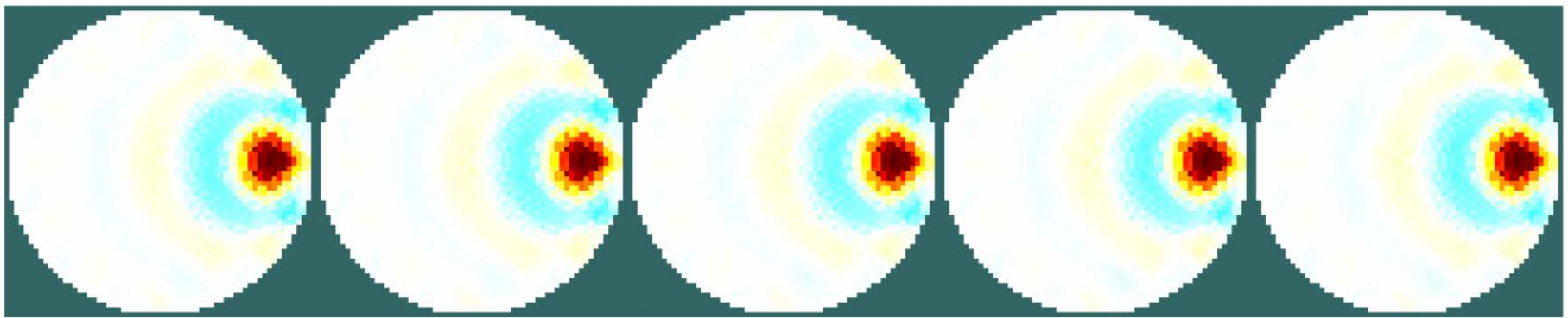
Kalman (perfect frames)



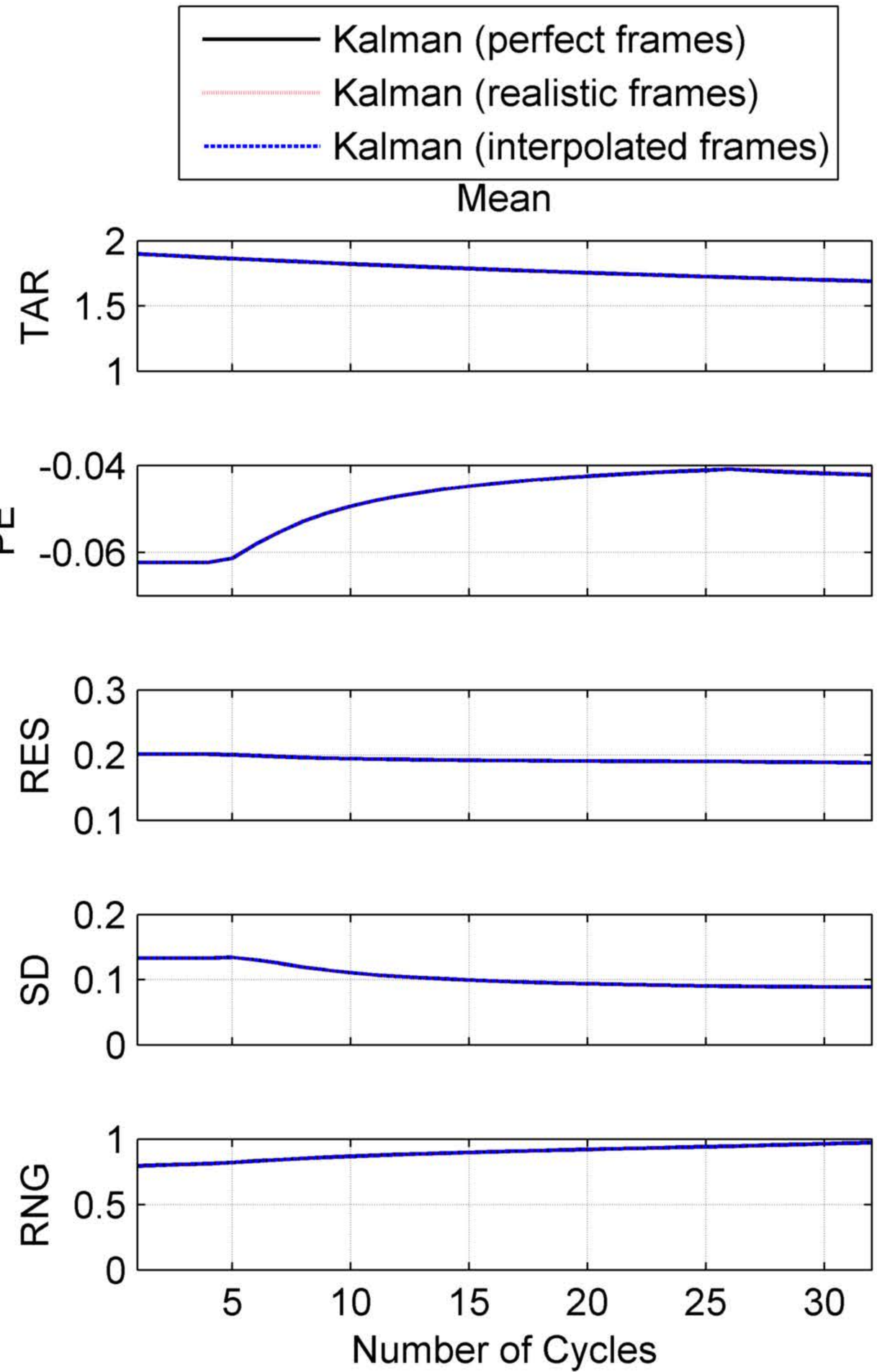
Kalman (realistic frames)

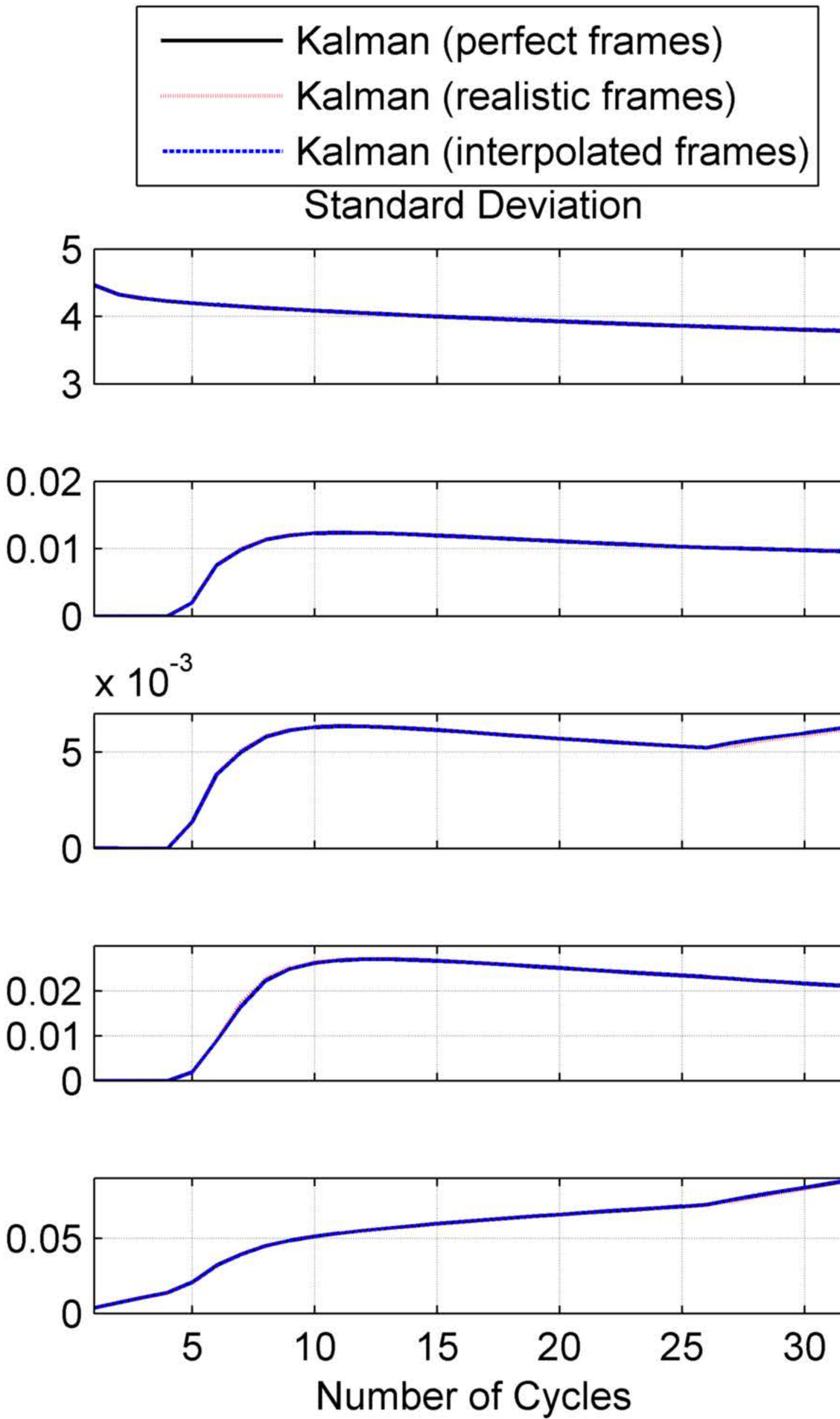


Kalman (interpolated frames)

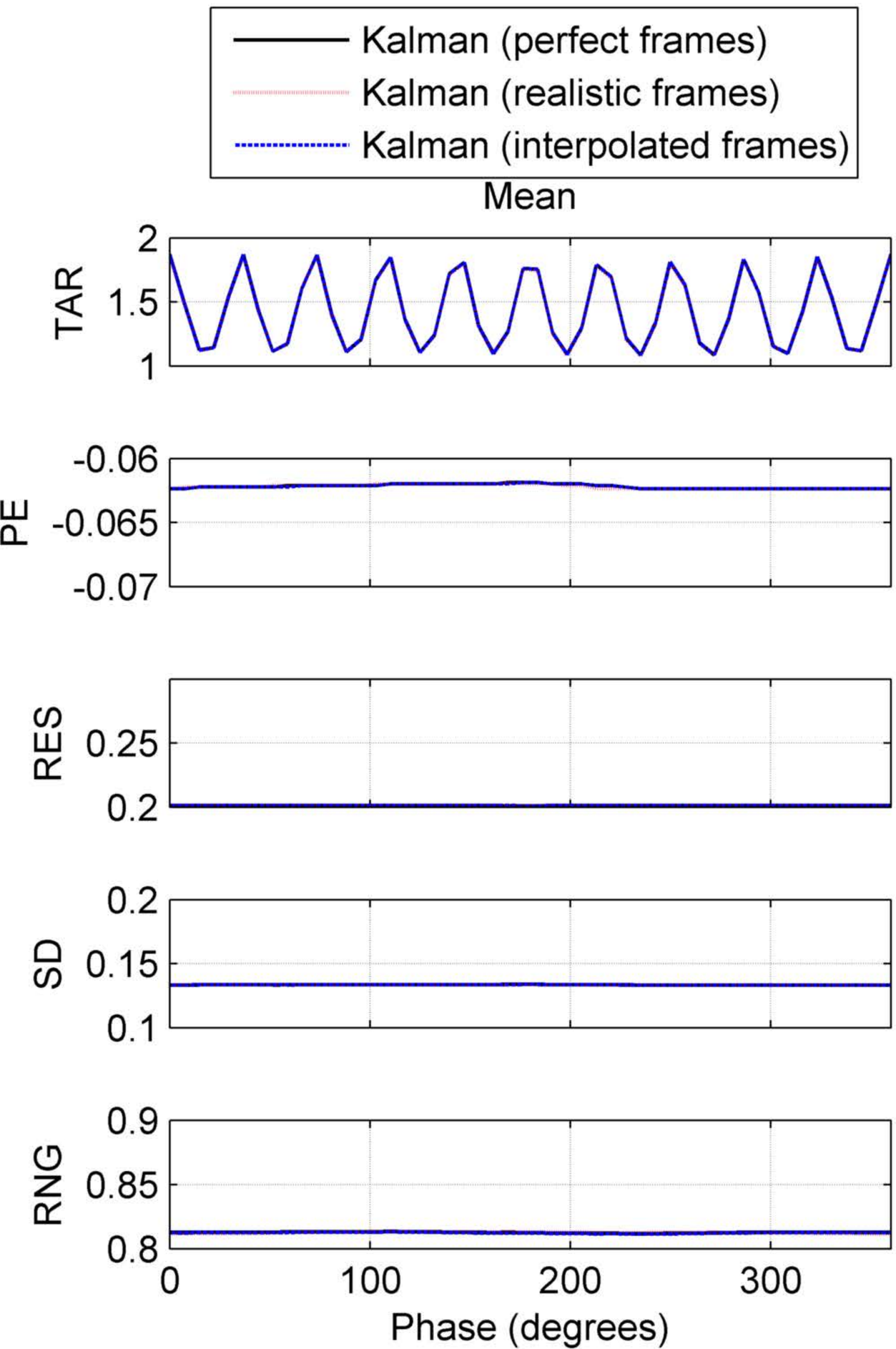


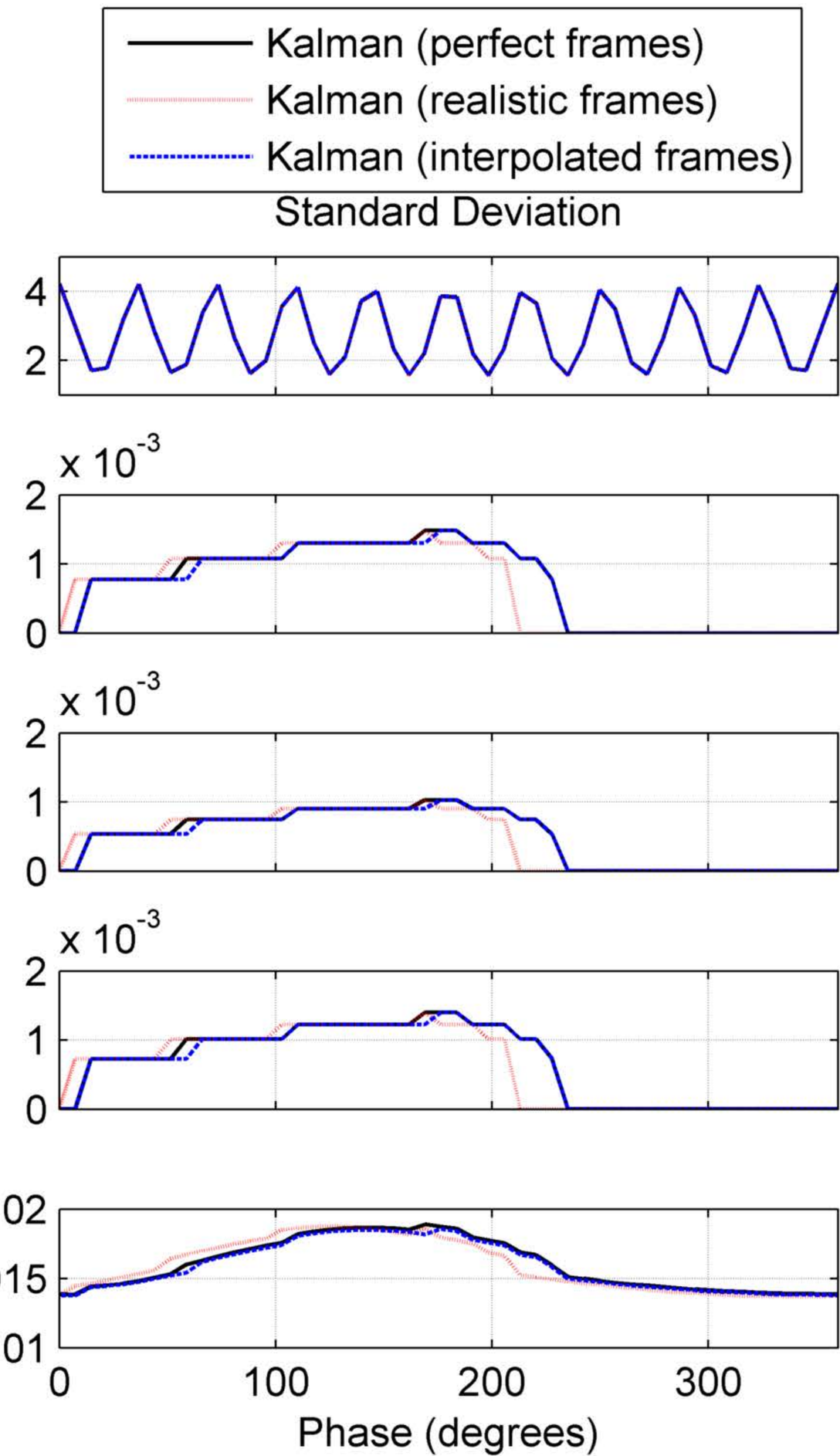
FOM as a function of number of cycles
Frequency = 0.1; Radius = 0.666667; Phase = 0; SNR = Inf;





FOM as a function of phase (radians)
Frequency = 0.1; Radius = 0.666667; Number of cycles = 4; SNR = Inf;





FOM as a function of radius (fraction of diameter)
Frequency = 0.1; Phase = 0; Number of cycles = 4; SNR = Inf;

Kalman (perfect frames)
Kalman (realistic frames)
Kalman (interpolated frames)

Mean

TAR
4
2

PE
0.2
0.1
0
-0.1

RES
0.3
0.2
0.1

SD
0.2
0.1
0

RNG
2
1
0

0 0.2 0.4 0.6 0.8 1

Radius (fraction of diameter)

Kalman (perfect frames)
Kalman (realistic frames)
Kalman (interpolated frames)

Standard Deviation

10
5
0

0.01
0.005
0

x 10^{-3}
5
0

0.1
0.05
0

0.04
0.02
0

0 0.2 0.4 0.6 0.8 1

Radius (fraction of diameter)

FOM as a function of SNR
Frequency = 0; Radius = 0.666667; Phase = 0; Number of cycles = 100;

Kalman (perfect frames)
Kalman (realistic frames)
Kalman (interpolated frames)

Mean

TAR
5
0
-5

PE
0.6
0.4
0.2
0

RES
0.6
0.4
0.2

SD
1
0.5
0

RNG
3
2
1
0
10^{-1} 10^{0} 10^{1} 10^{2} 10^{3} 10^{4}
SNR

Kalman (perfect frames)
Kalman (realistic frames)
Kalman (interpolated frames)

Standard Deviation

5
0

0.2
0.1
0

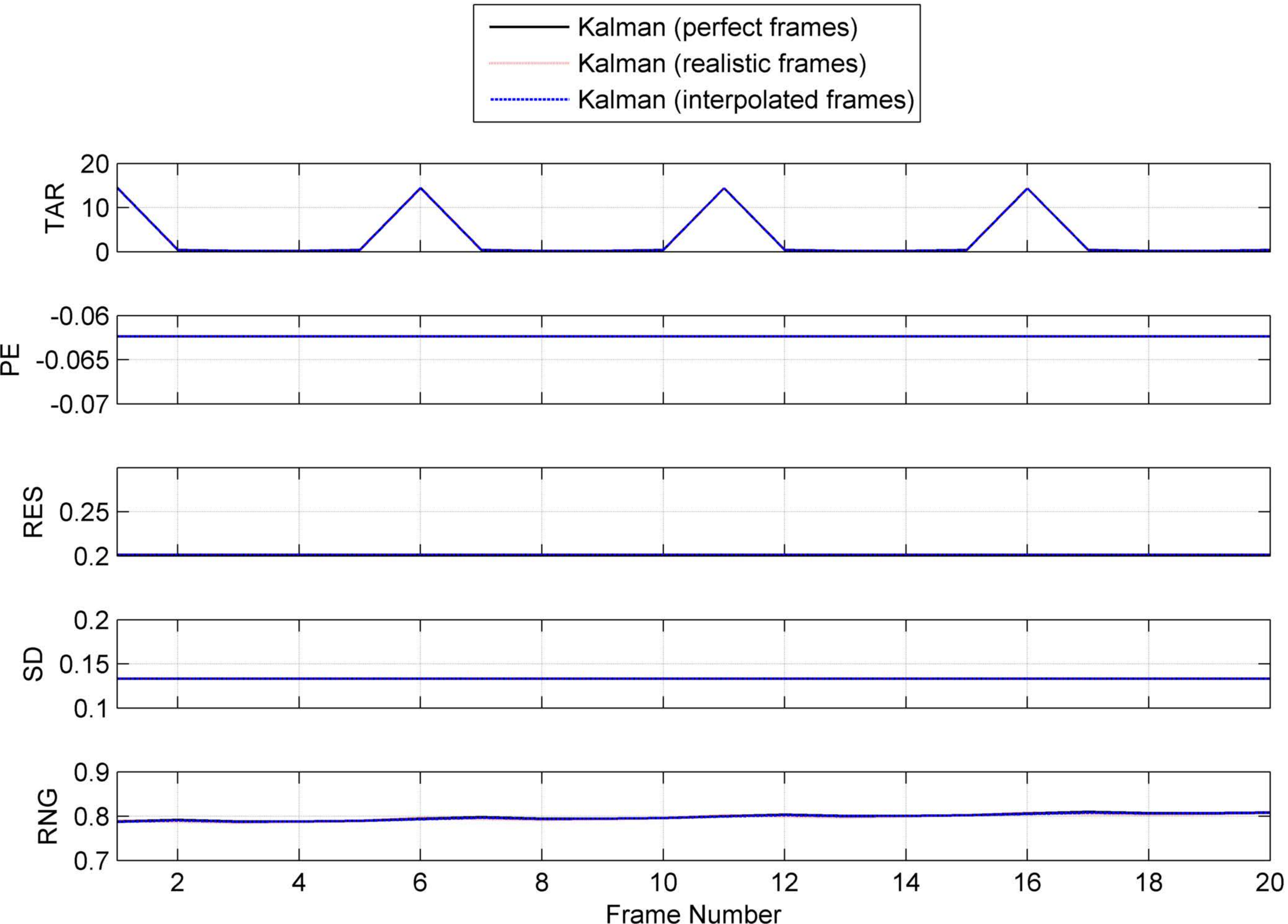
0.05
0

0.2
0.1
0

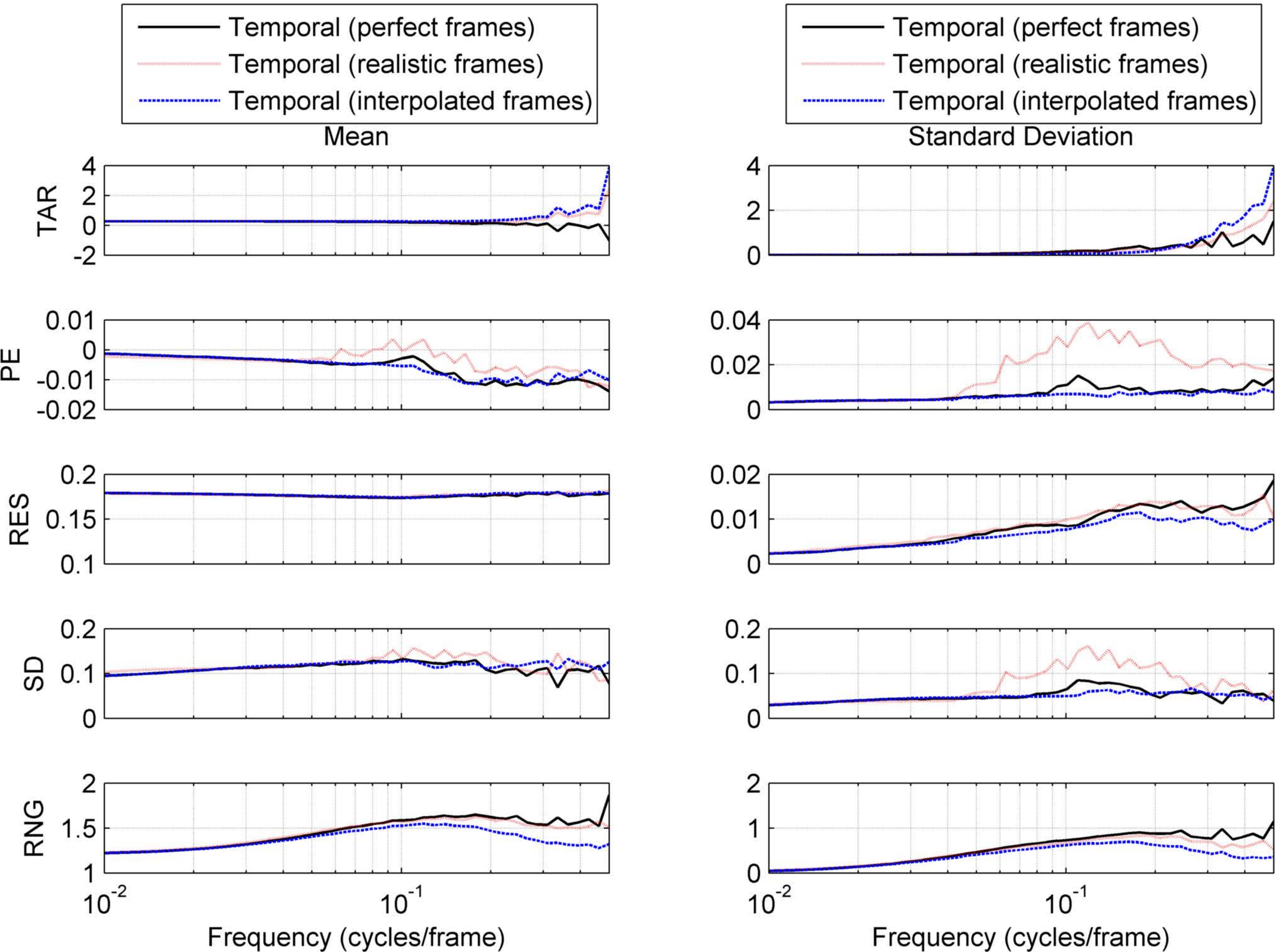
0.5
0
10^{-1} 10^{0} 10^{1} 10^{2} 10^{3} 10^{4}
SNR

FOM as a function of time

Frequency = 0.2; Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;

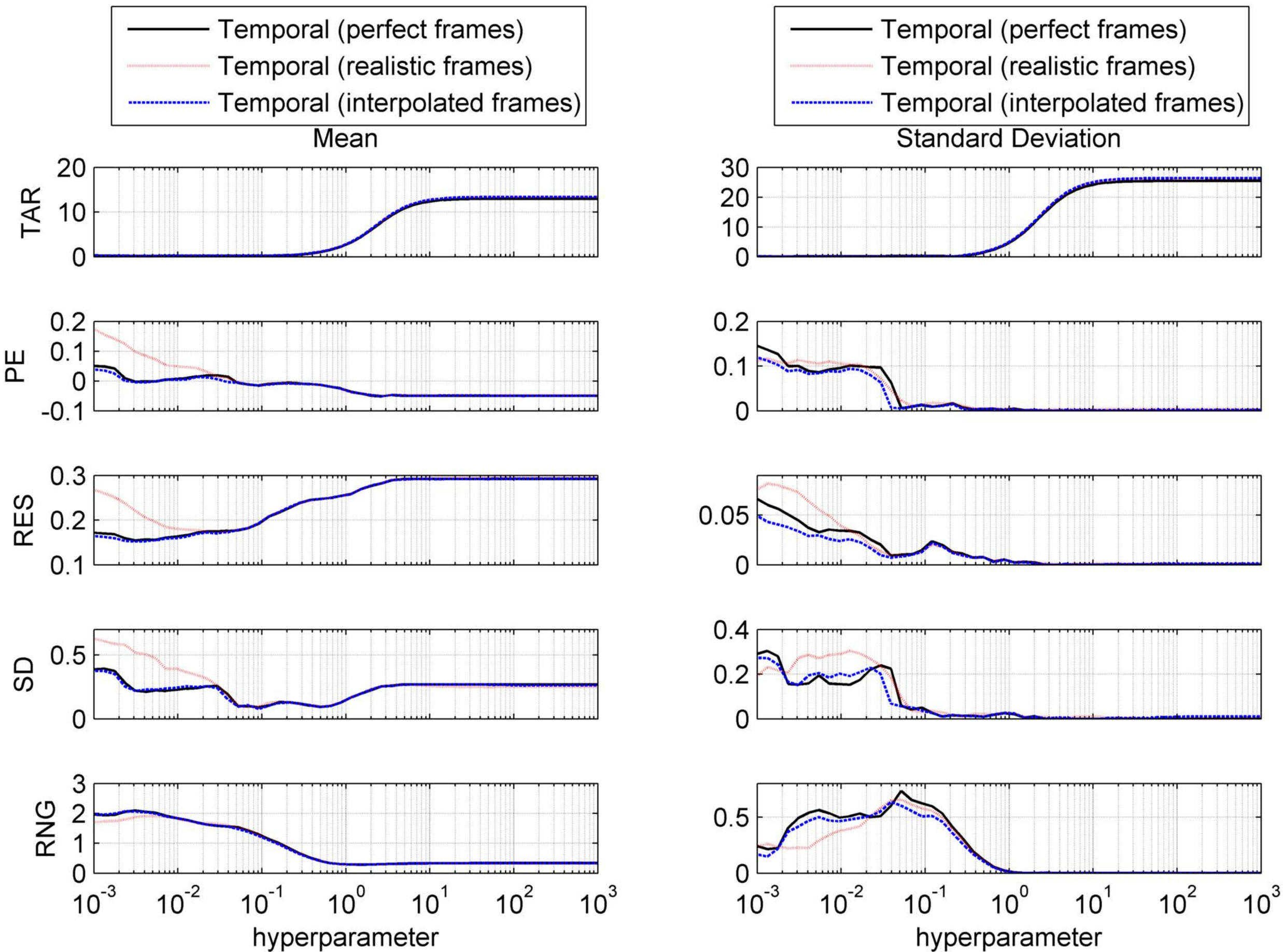


FOM as a function of frequency (cycles/frame)
Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;



FOM as a function of hyperparameter

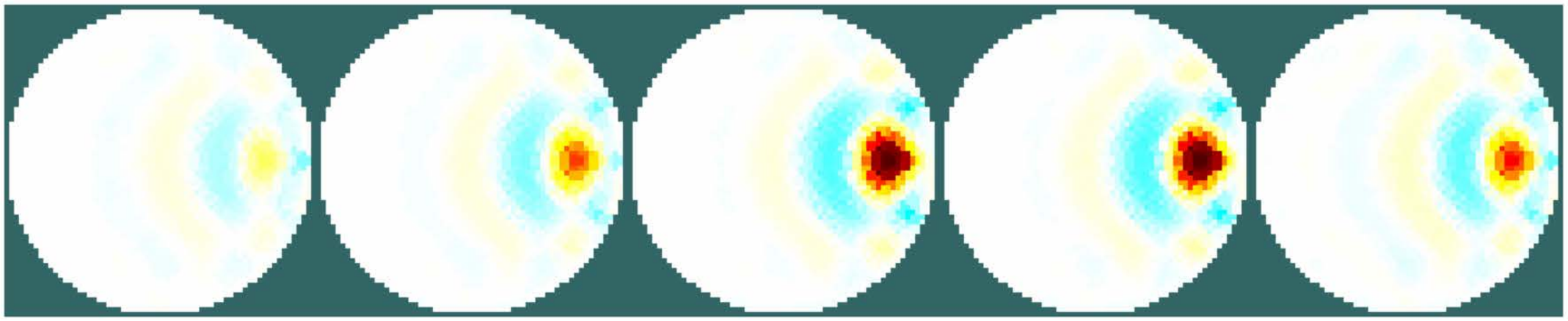
Frequency = 0.1; Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;



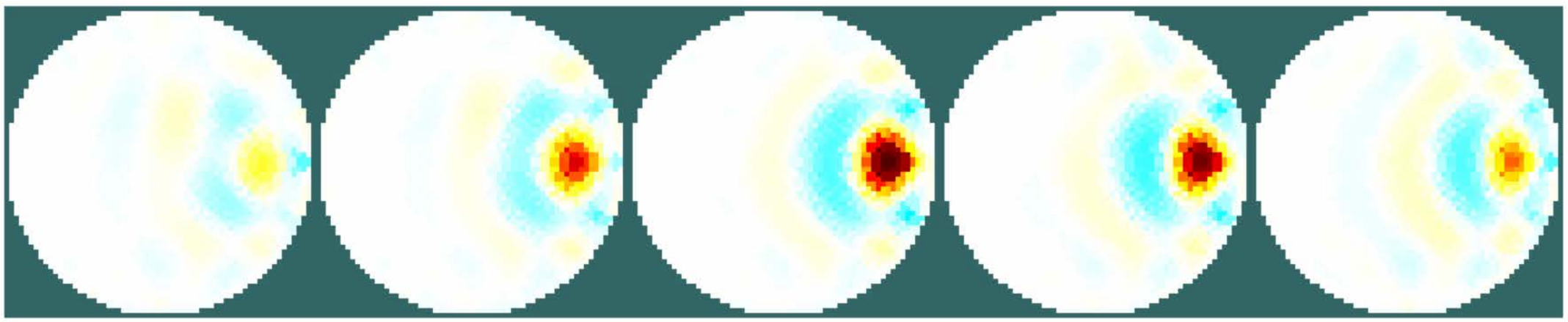
FOM as a function of time

Frequency = 0.2; Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;

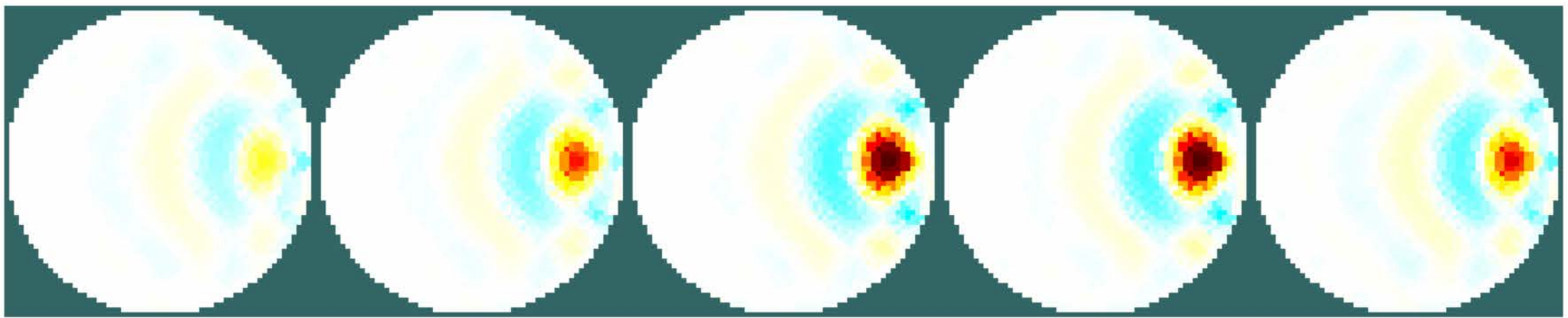
Temporal (perfect frames)



Temporal (realistic frames)



Temporal (interpolated frames)



FOM as a function of number of cycles
Frequency = 0.1; Radius = 0.666667; Phase = 0; SNR = Inf;

Temporal (perfect frames)
Temporal (realistic frames)
Temporal (interpolated frames)

Mean

TAR
PE
RES
SD
RNG

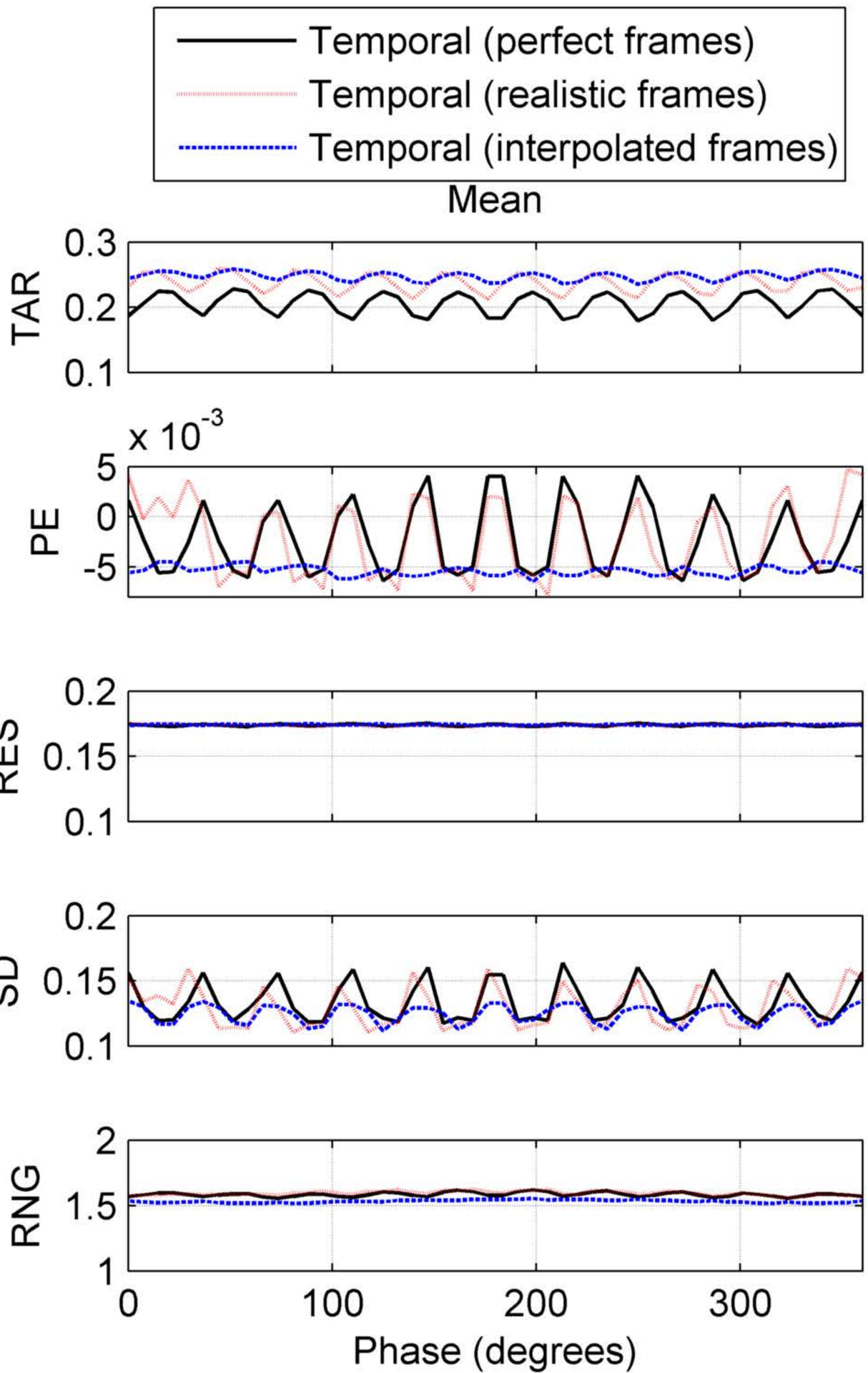
Temporal (perfect frames)
Temporal (realistic frames)
Temporal (interpolated frames)

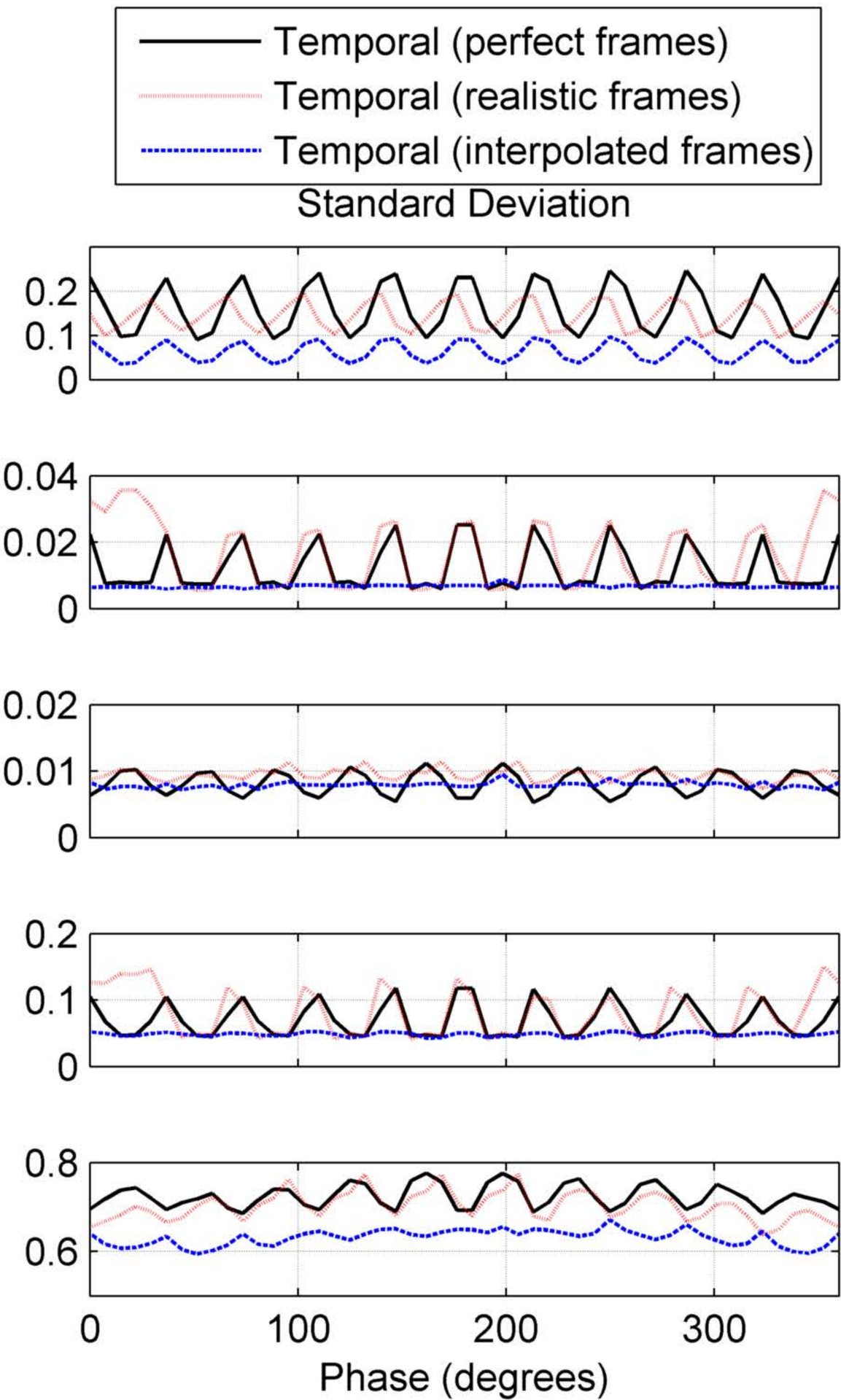
Standard Deviation

Number of Cycles

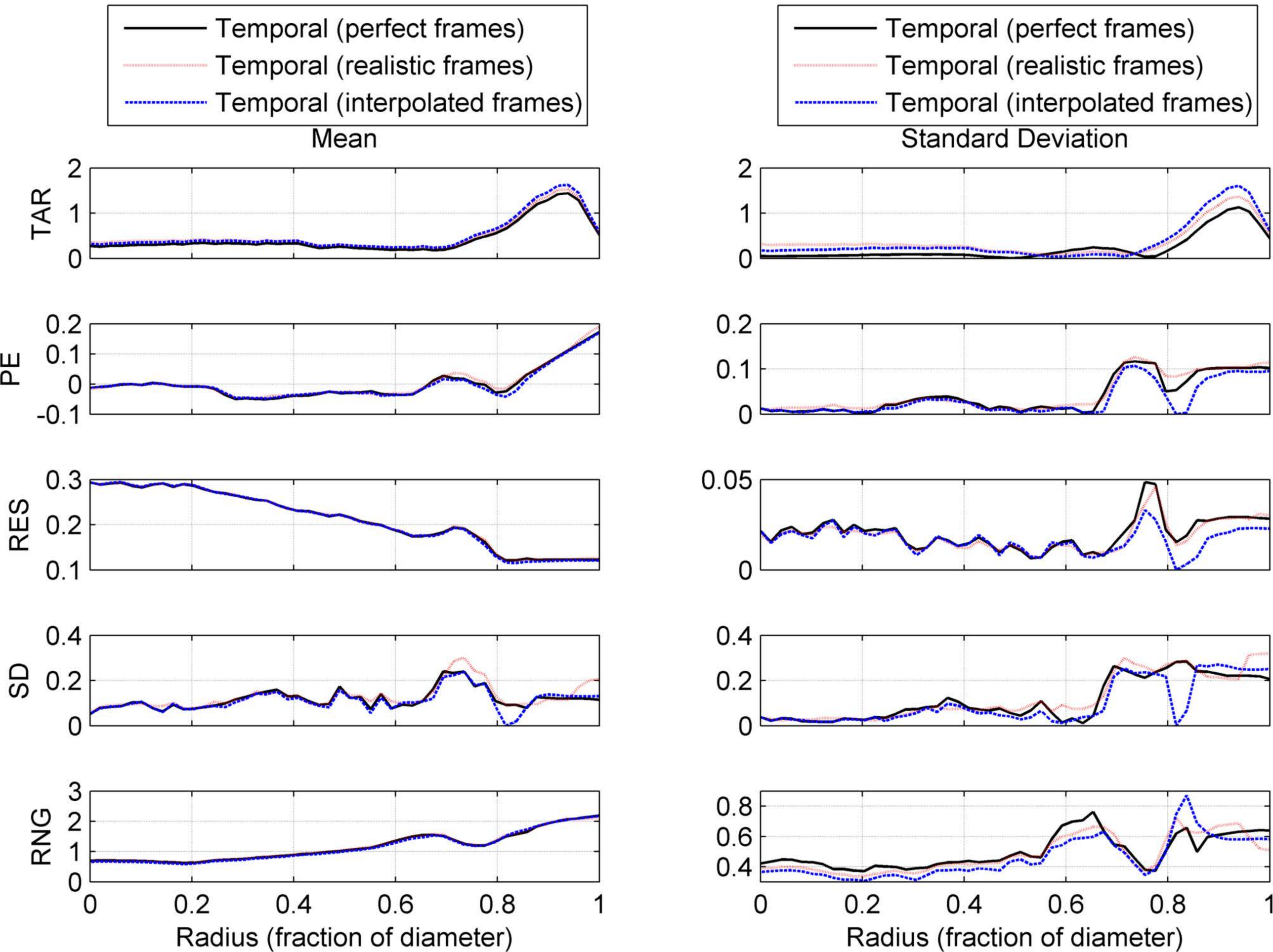
Number of Cycles

FOM as a function of phase (radians)
Frequency = 0.1; Radius = 0.666667; Number of cycles = 4; SNR = Inf;



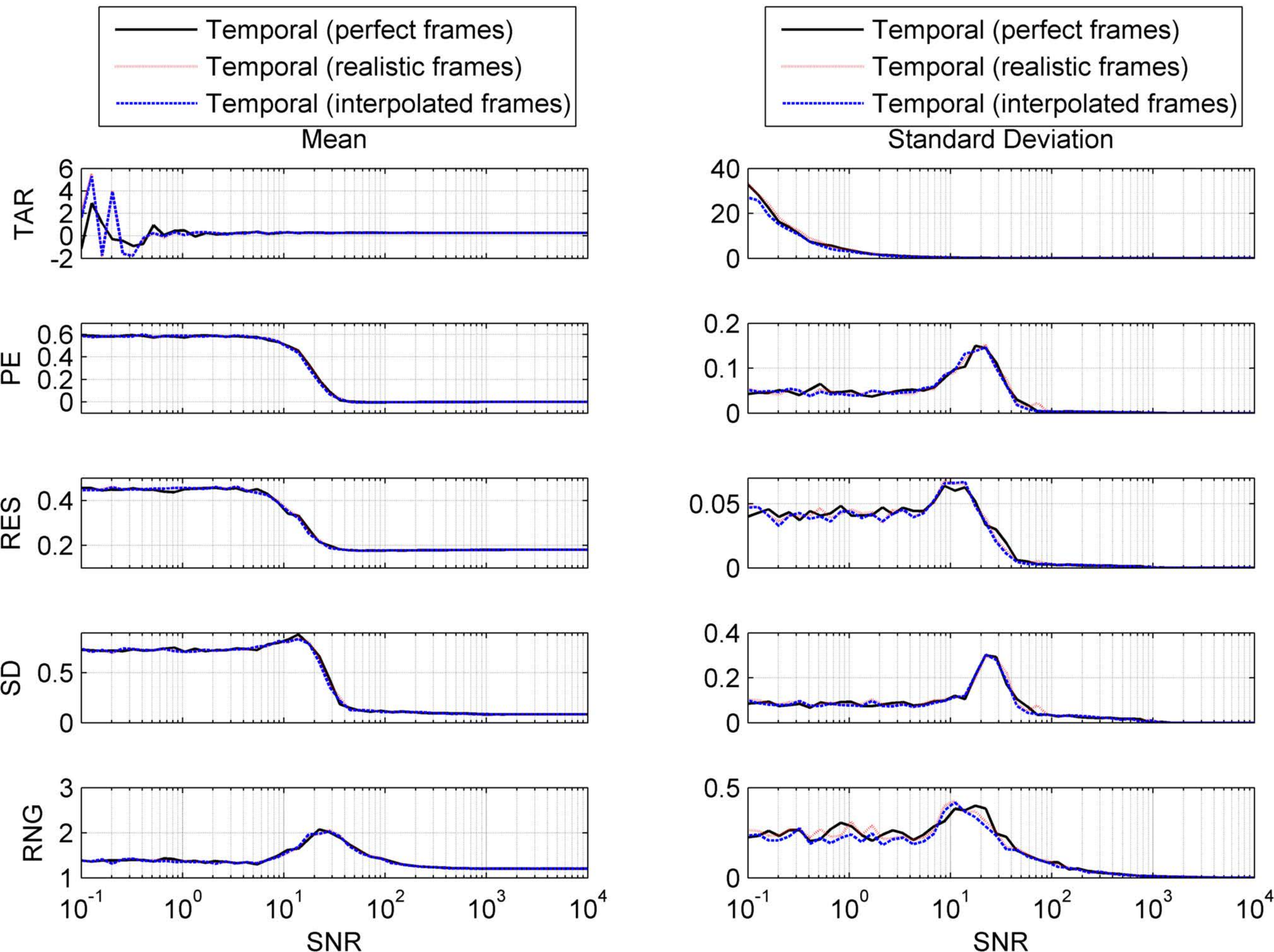


FOM as a function of radius (fraction of diameter)
Frequency = 0.1; Phase = 0; Number of cycles = 4; SNR = Inf;



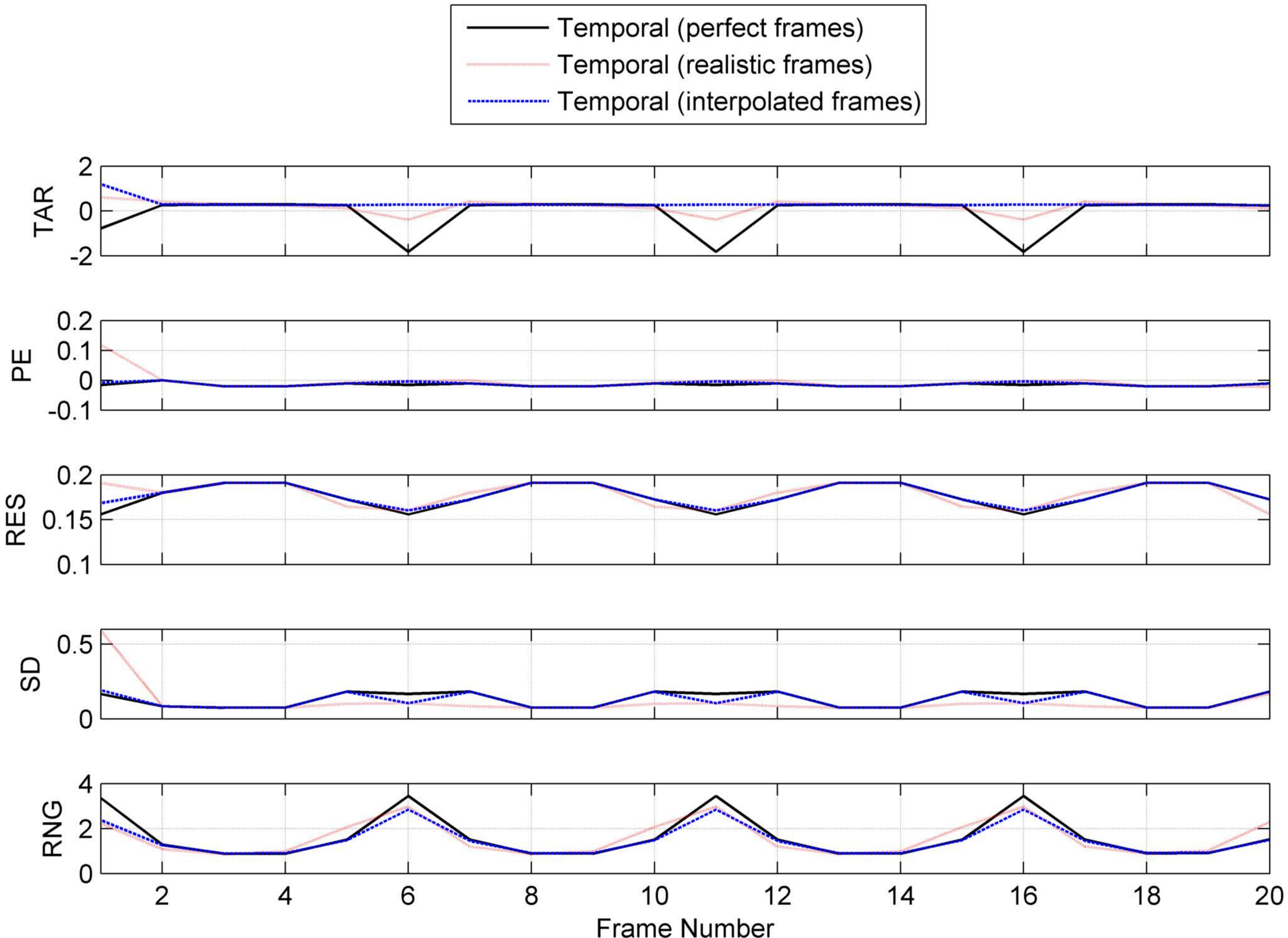
FOM as a function of SNR

Frequency = 0; Radius = 0.666667; Phase = 0; Number of cycles = 100;



FOM as a function of time

Frequency = 0.2; Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;



FOM as a function of frequency (cycles/frame)
Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;

Gauss-Newton (interpolated frames)
Kalman (interpolated frames)
Temporal (interpolated frames)

Mean

TAR
5
0

PE
0
-0.05

RES
0.3
0.2
0.1

SD
0.2
0.1
0

RNG
2
1
0

10^{-2} 10^{-1}

Frequency (cycles/frame)

Gauss-Newton (interpolated frames)
Kalman (interpolated frames)
Temporal (interpolated frames)

Standard Deviation

5
0

0.02
0.01
0

0.02
0.01
0

0.05
0

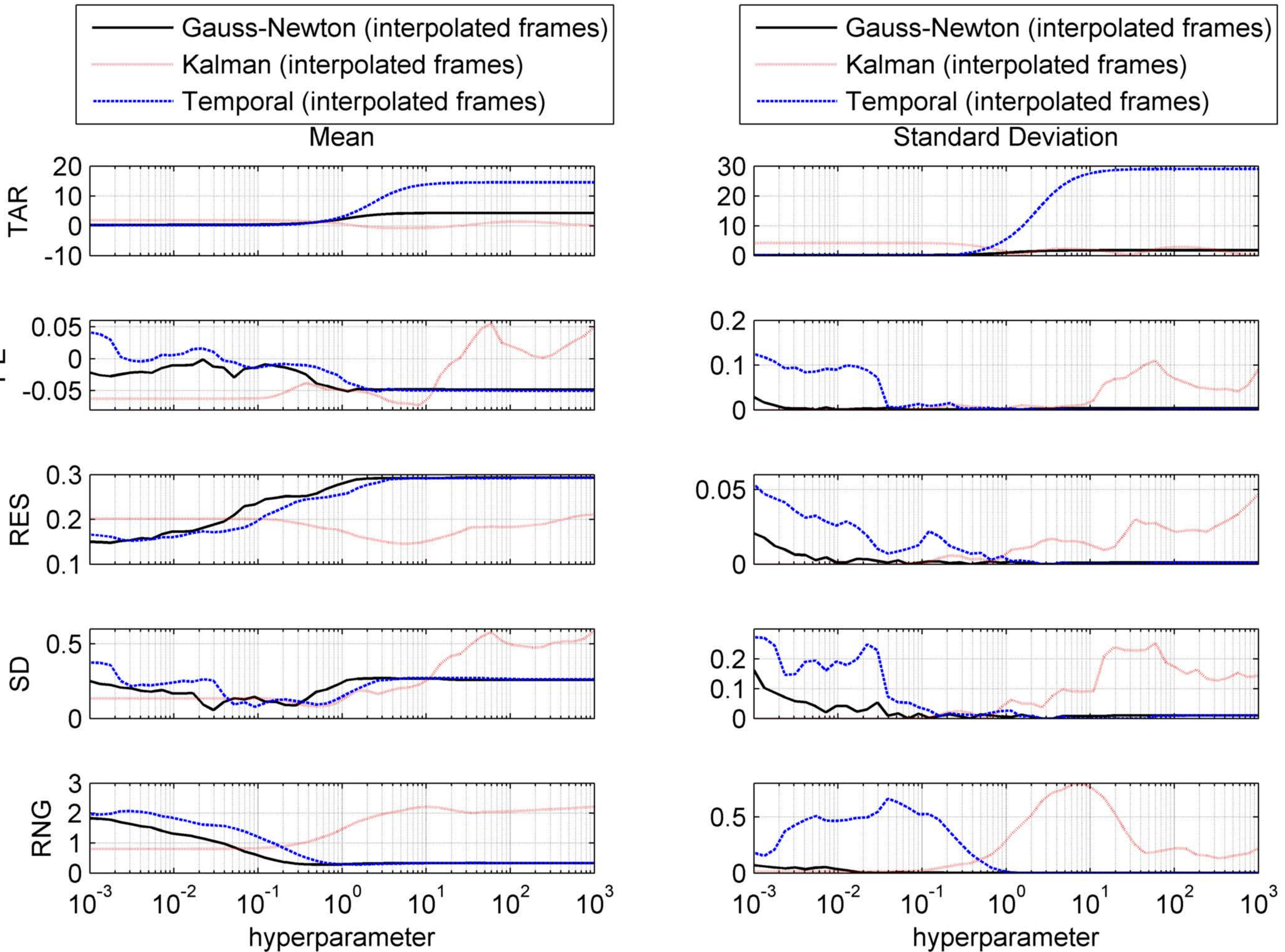
0.5
0

10^{-2} 10^{-1}

Frequency (cycles/frame)

FOM as a function of hyperparameter

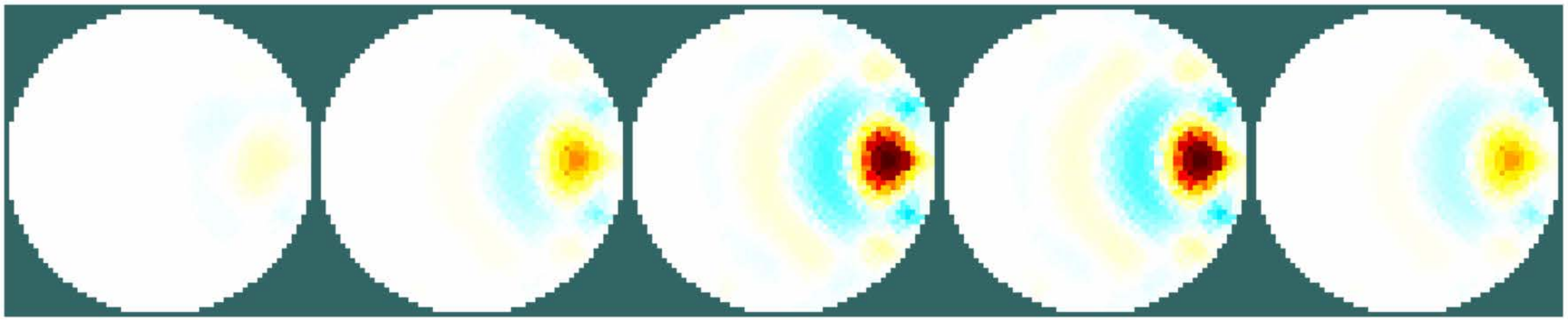
Frequency = 0.1; Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;



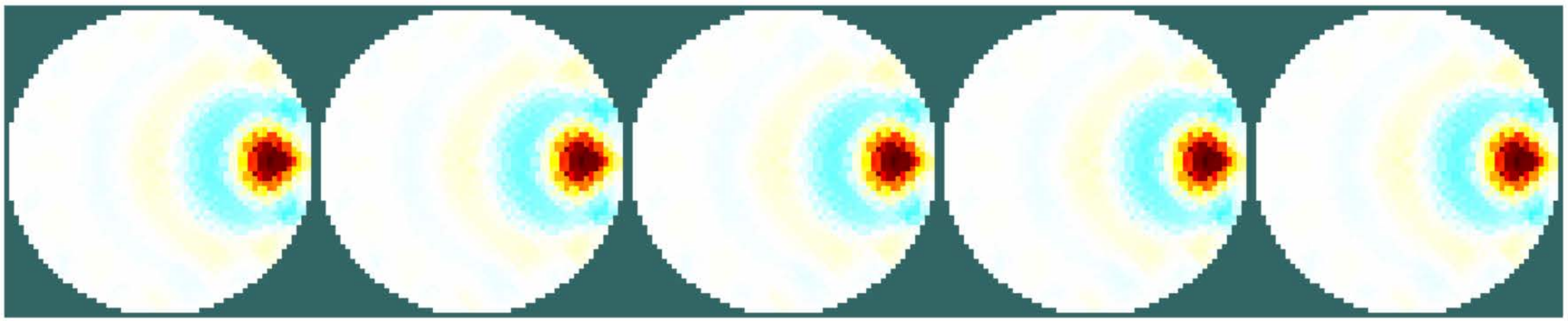
FOM as a function of time

Frequency = 0.2; Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;

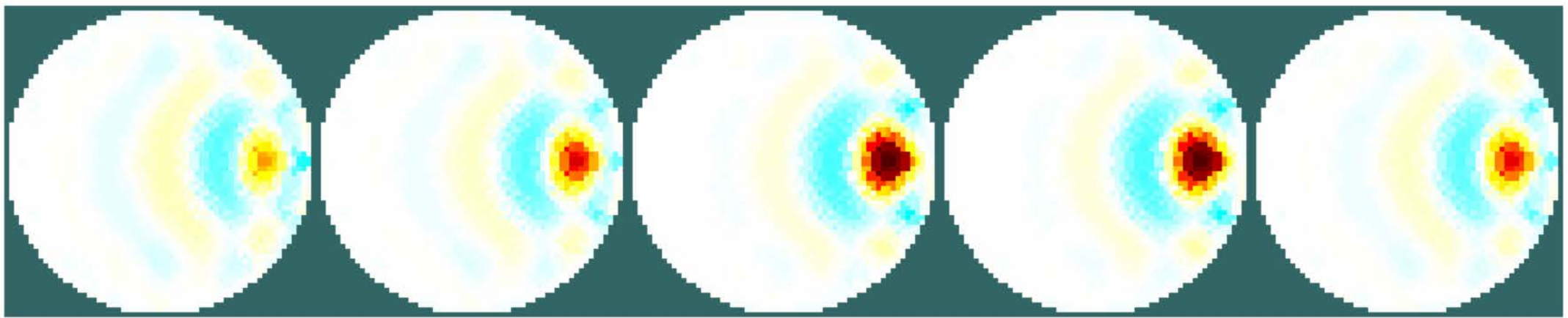
Gauss-Newton (interpolated frames)



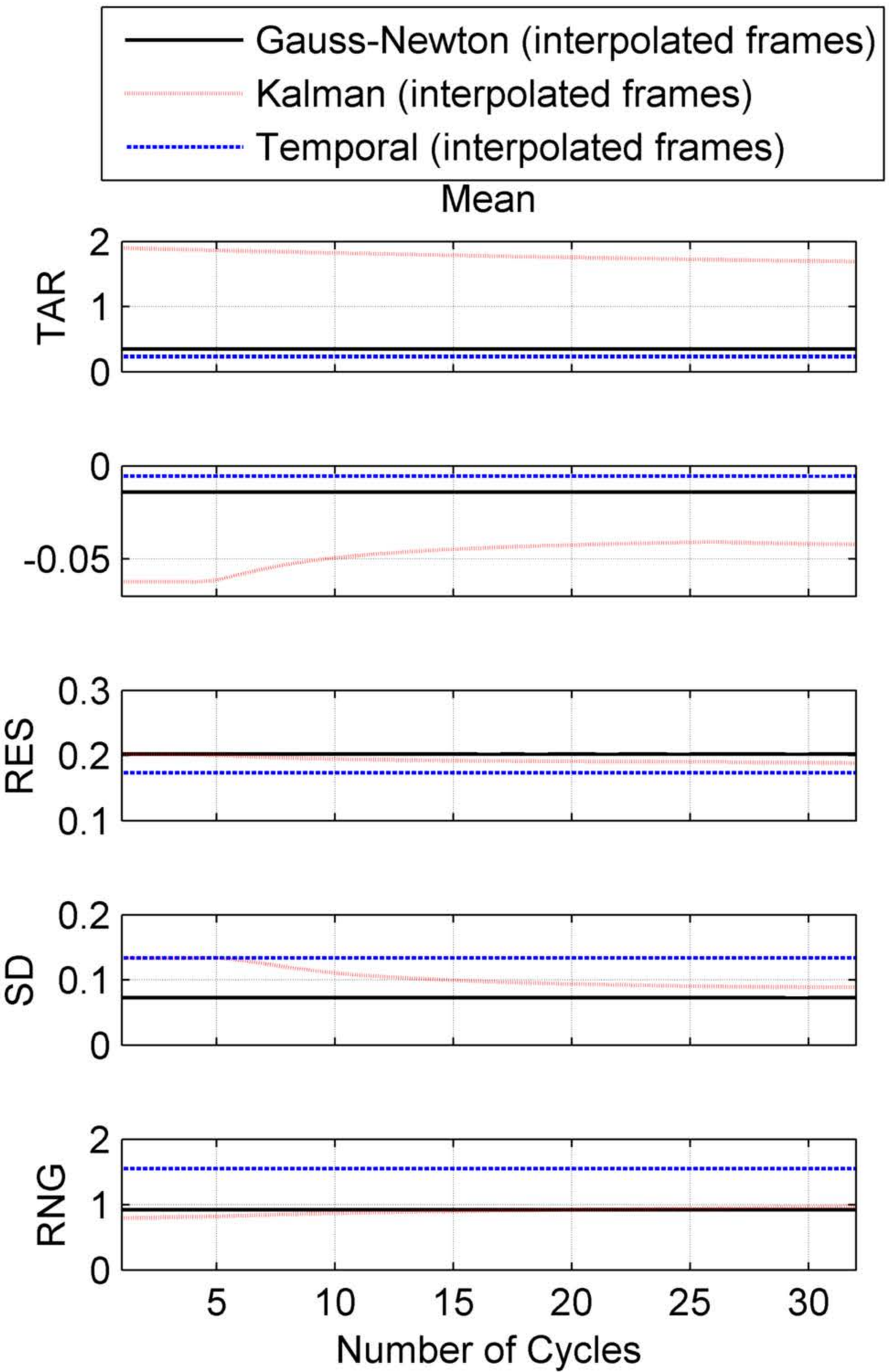
Kalman (interpolated frames)

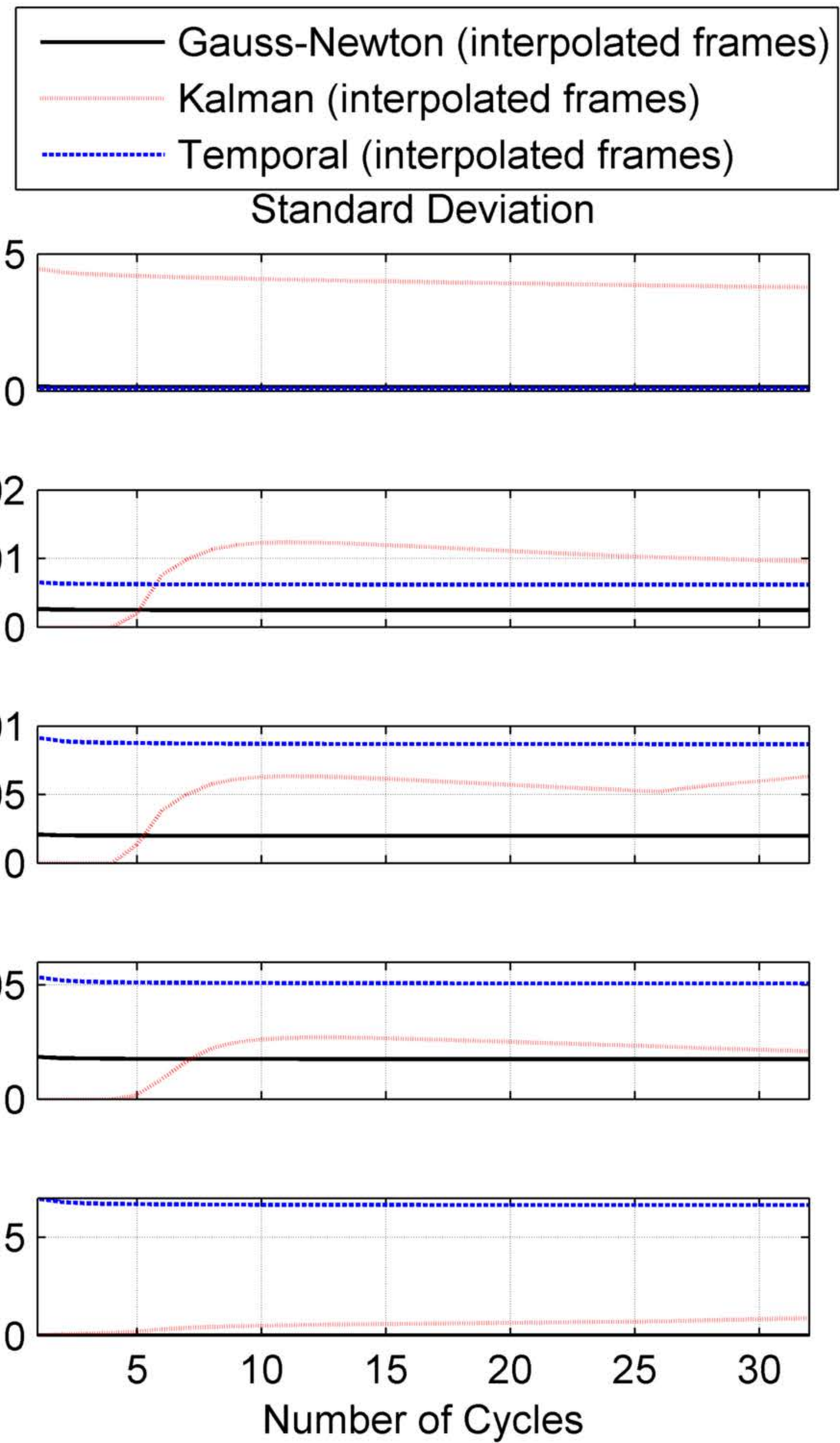


Temporal (interpolated frames)

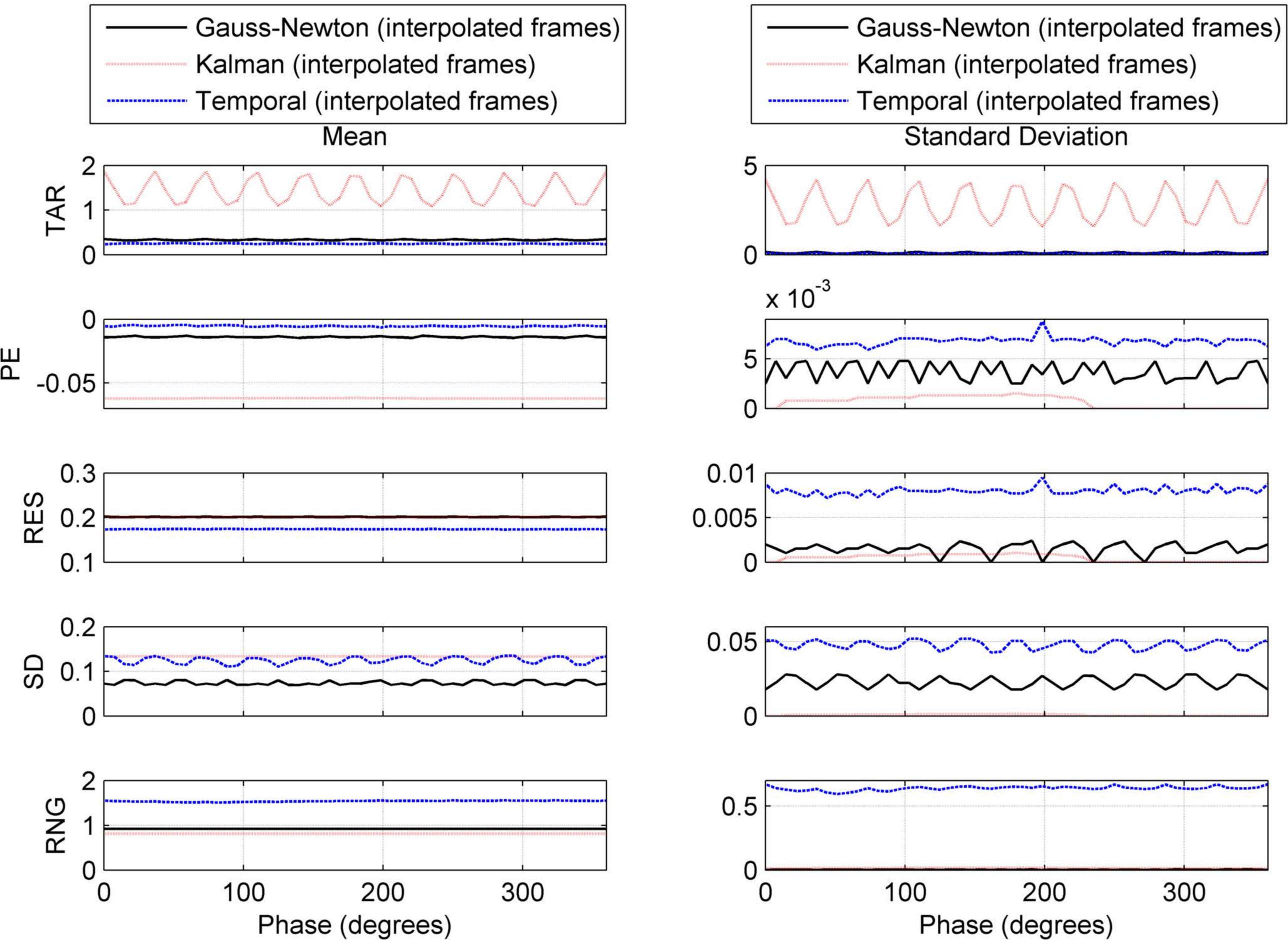


FOM as a function of number of cycles
Frequency = 0.1; Radius = 0.666667; Phase = 0; SNR = Inf;

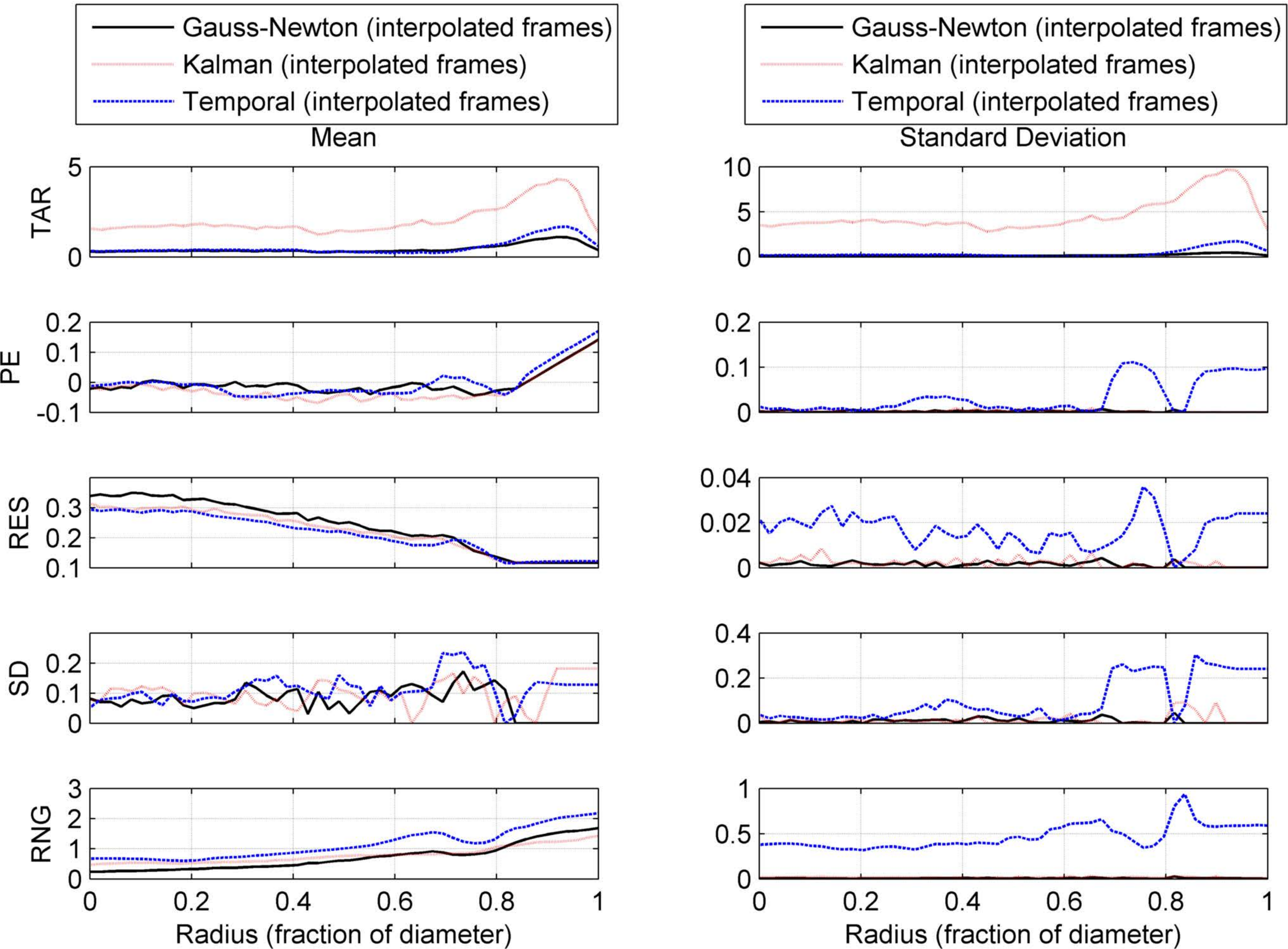




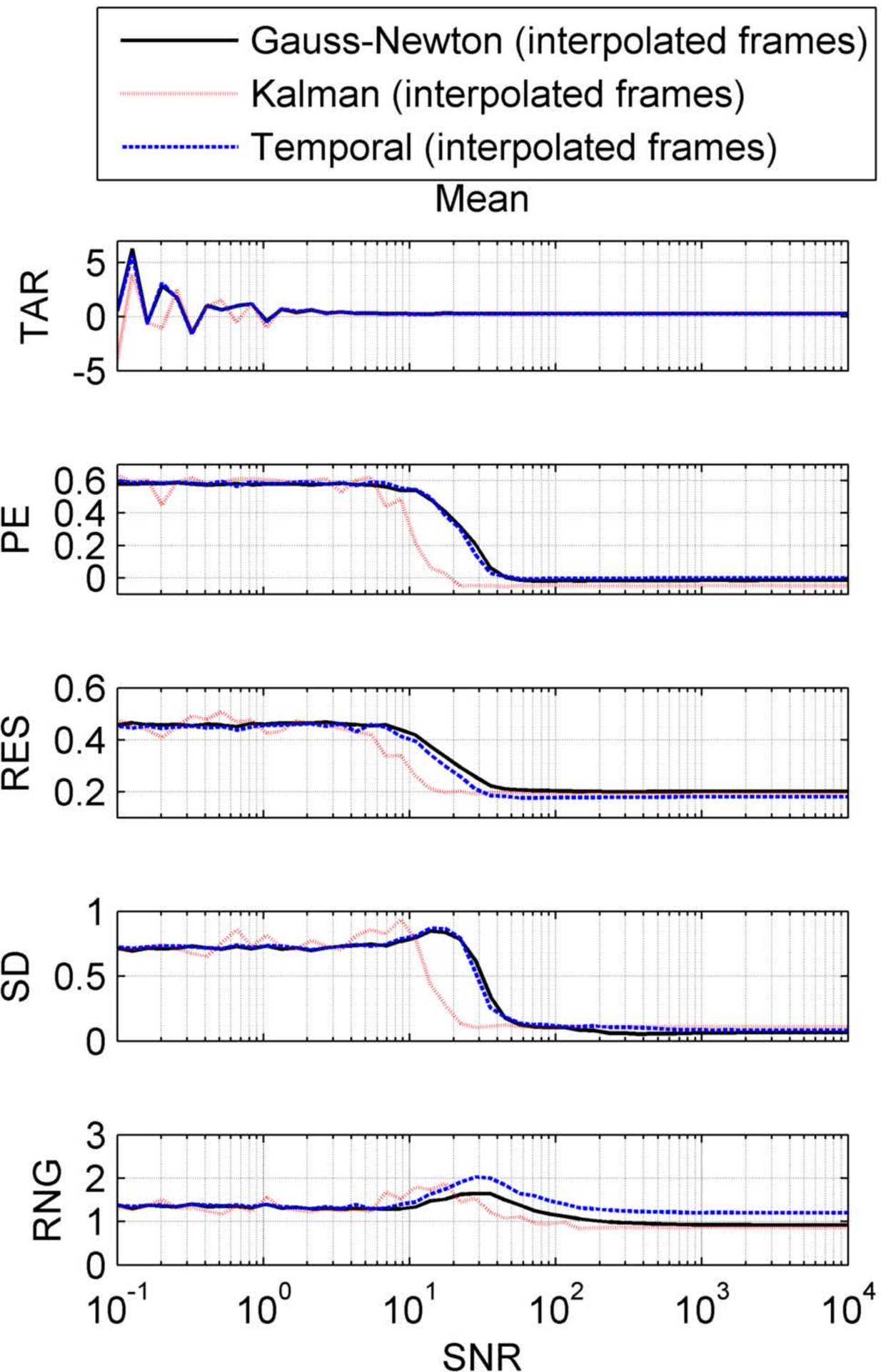
FOM as a function of phase (radians)
Frequency = 0.1; Radius = 0.666667; Number of cycles = 4; SNR = Inf;

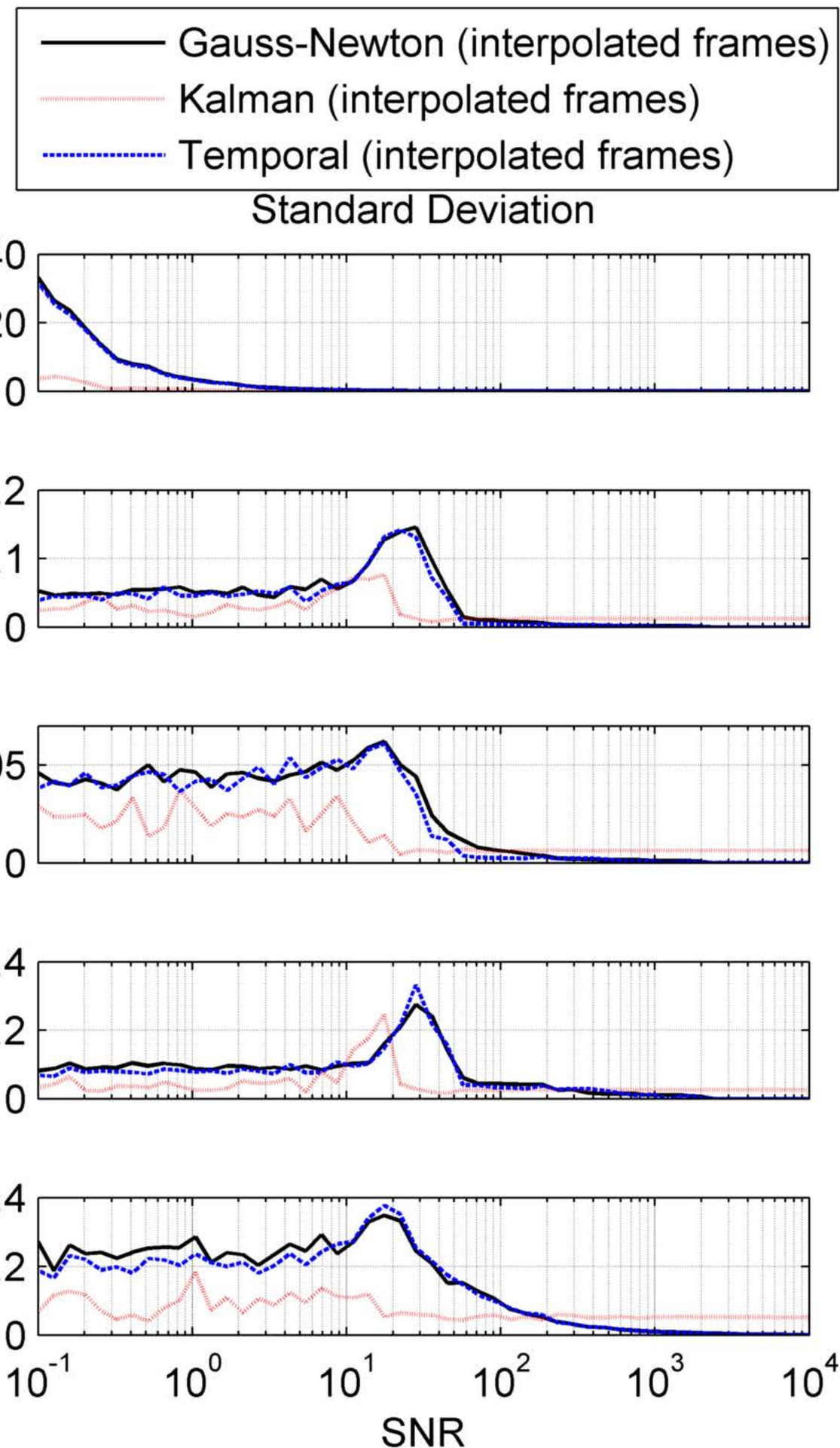


FOM as a function of radius (fraction of diameter)
Frequency = 0.1; Phase = 0; Number of cycles = 4; SNR = Inf;



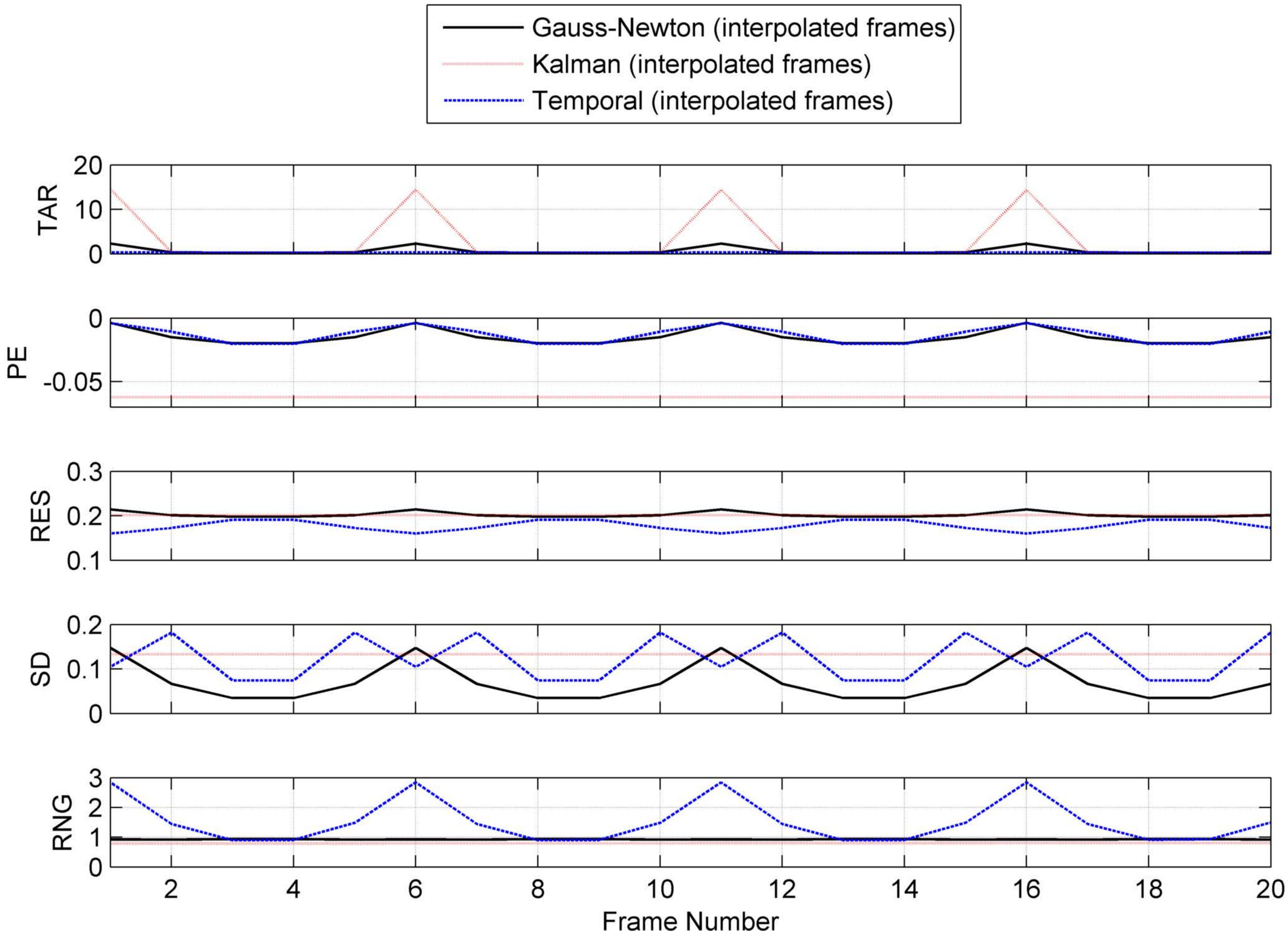
FOM as a function of SNR
Frequency = 0; Radius = 0.666667; Phase = 0; Number of cycles = 100;





FOM as a function of time

Frequency = 0.2; Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;



FOM as a function of frequency (cycles/frame)
Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;

Gauss-Newton (perfect frames)
Kalman (perfect frames)
Temporal (perfect frames)

Mean

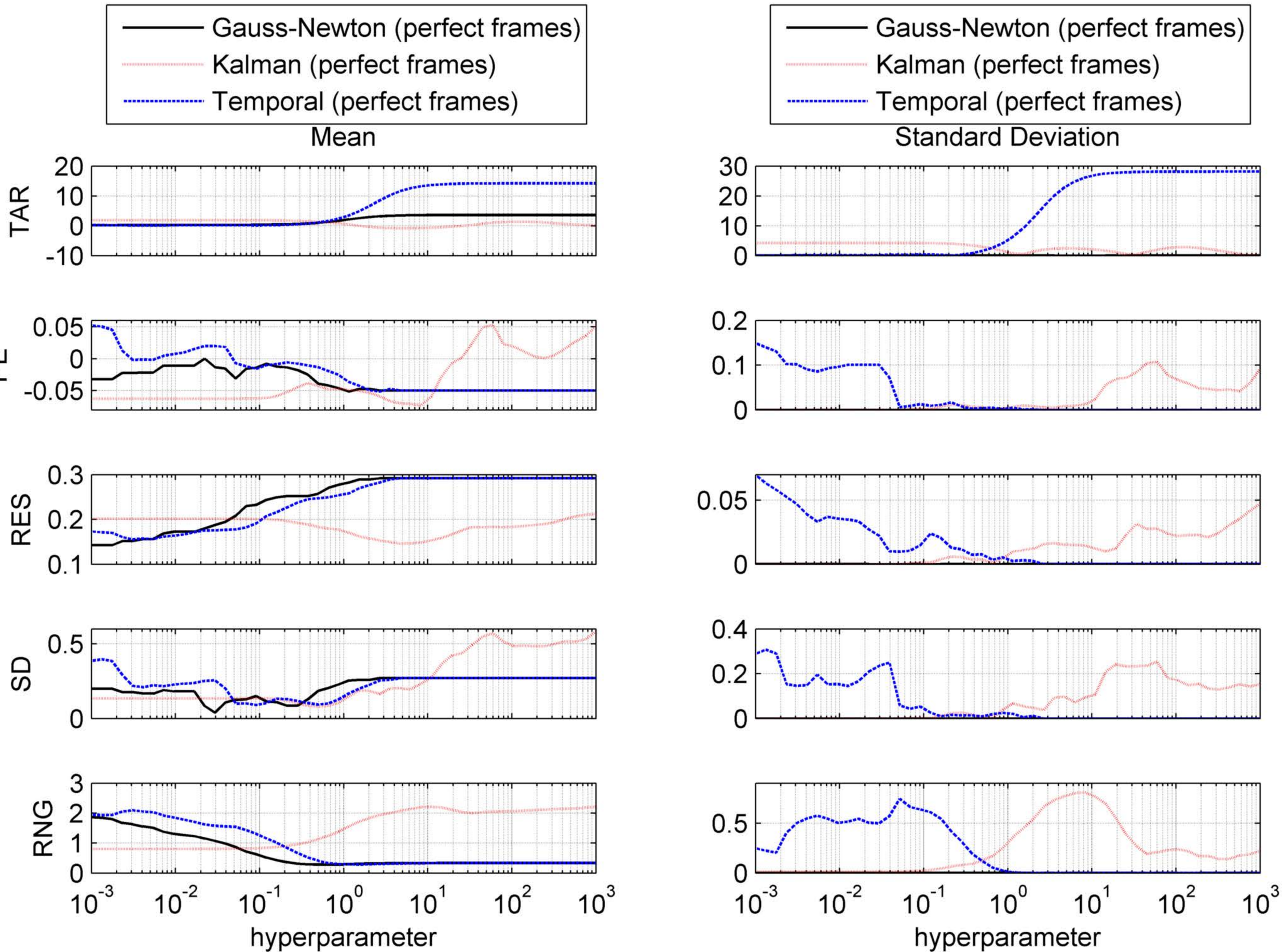
TAR
PE
RES
SD
RNG

Standard Deviation

Frequency (cycles/frame)

FOM as a function of hyperparameter

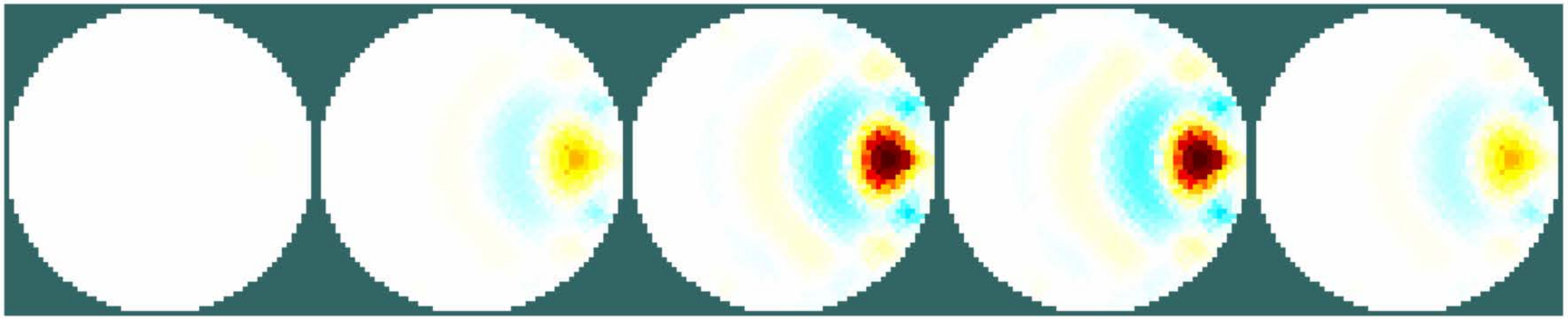
Frequency = 0.1; Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;



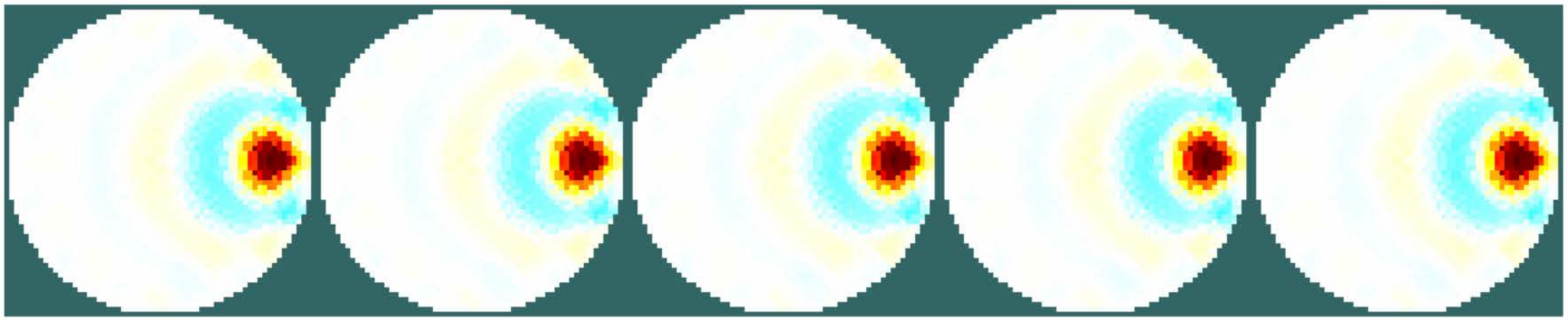
FOM as a function of time

Frequency = 0.2; Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;

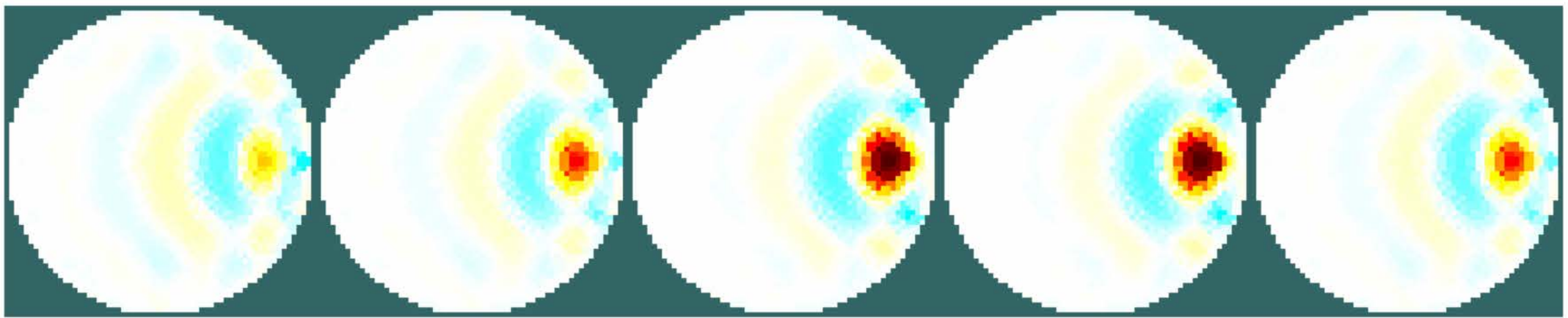
Gauss-Newton (perfect frames)



Kalman (perfect frames)



Temporal (perfect frames)



FOM as a function of number of cycles
Frequency = 0.1; Radius = 0.666667; Phase = 0; SNR = Inf;

Gauss-Newton (perfect frames)
Kalman (perfect frames)
Temporal (perfect frames)

Mean

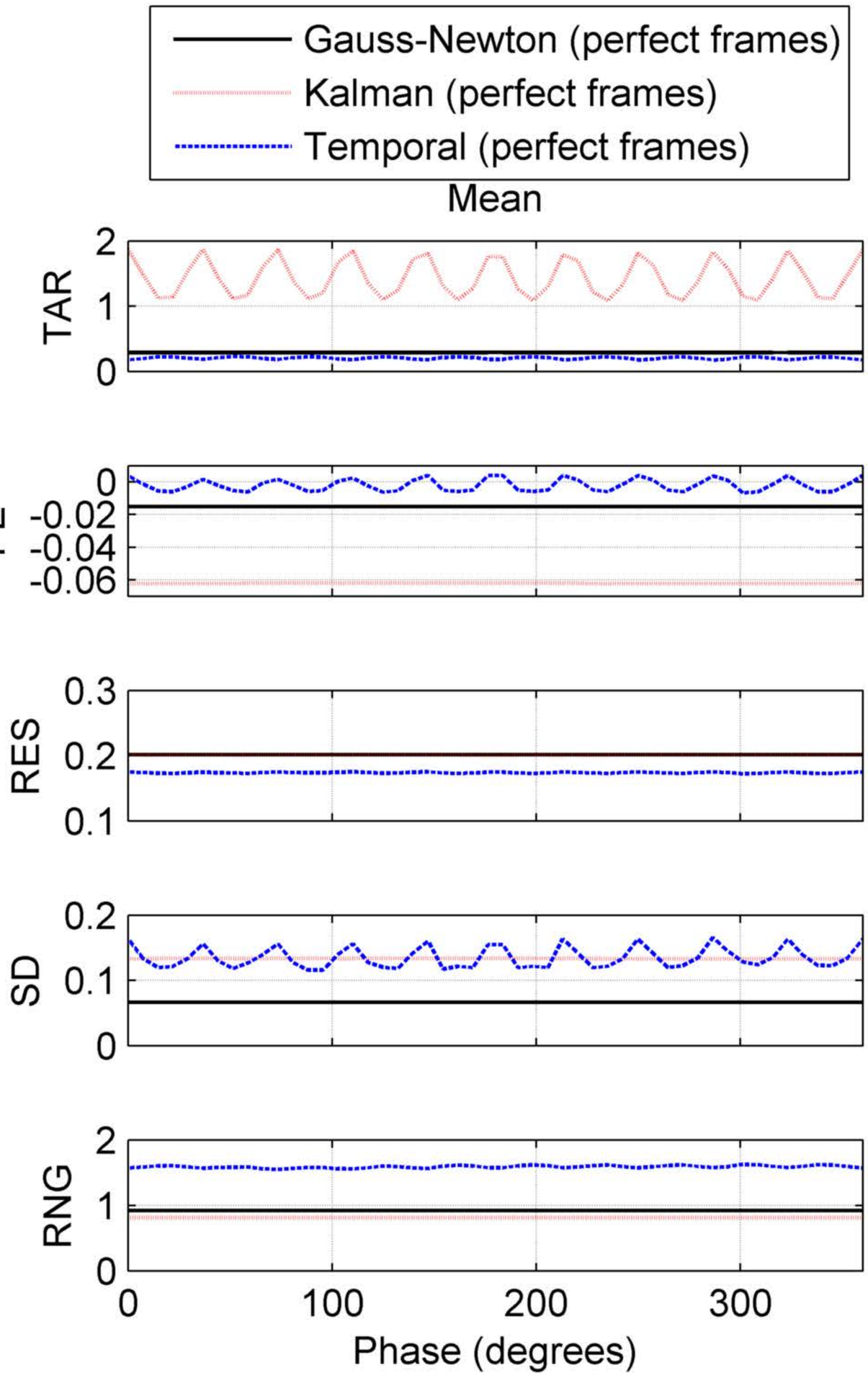
TAR
PE
RES
SD
RNG

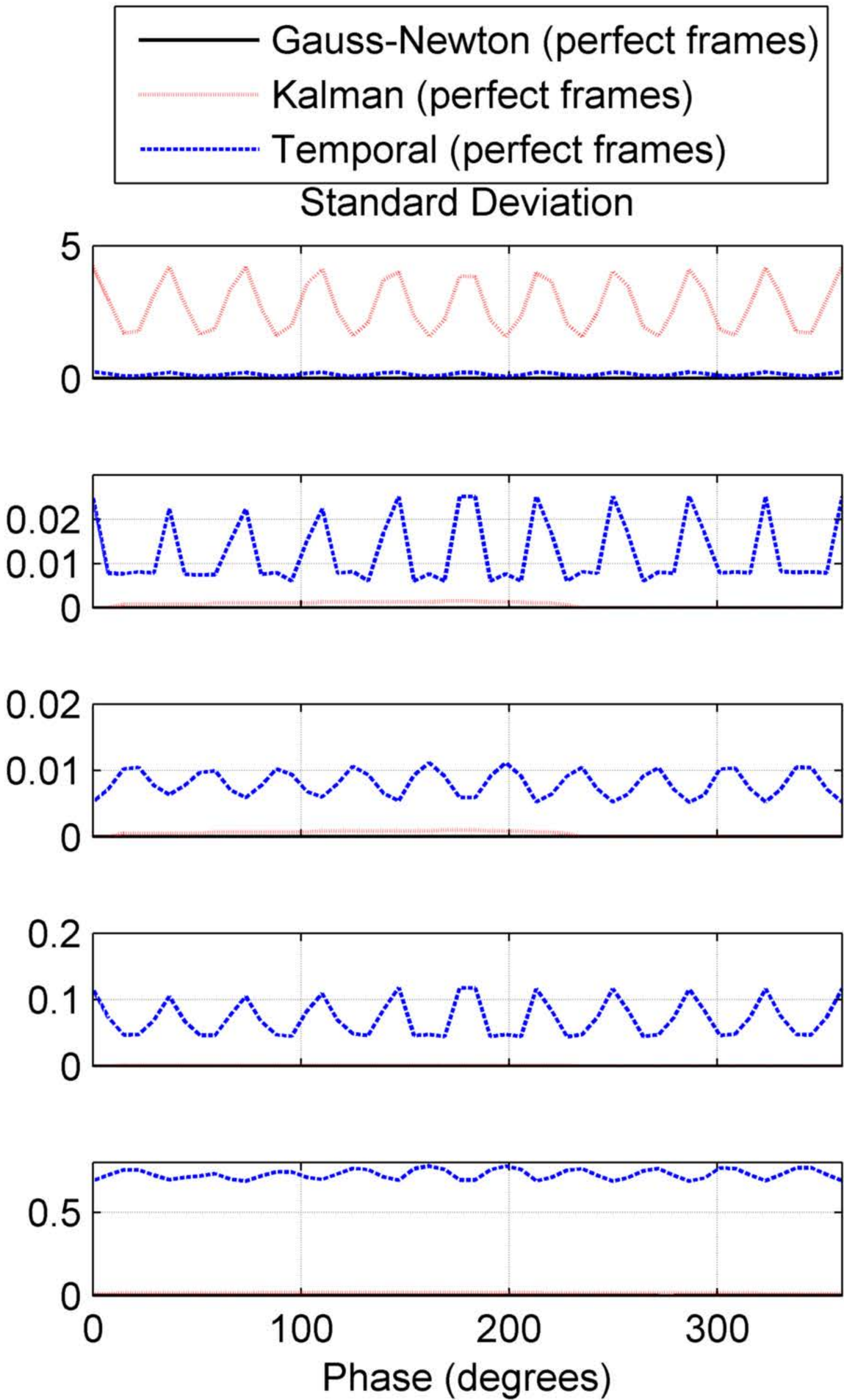
Standard Deviation

x 10^{-3}

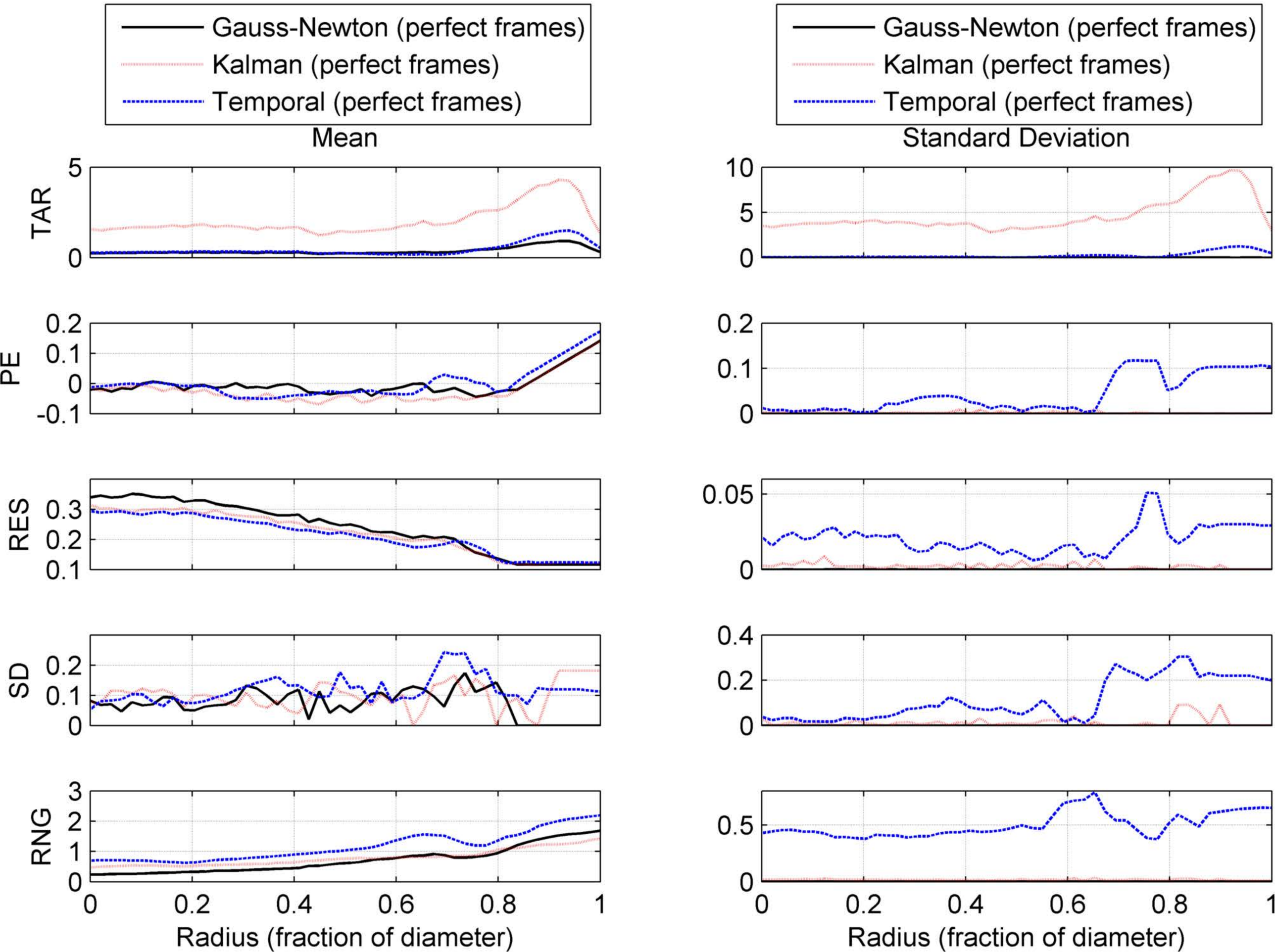
Number of Cycles

FOM as a function of phase (radians)
Frequency = 0.1; Radius = 0.666667; Number of cycles = 4; SNR = Inf;

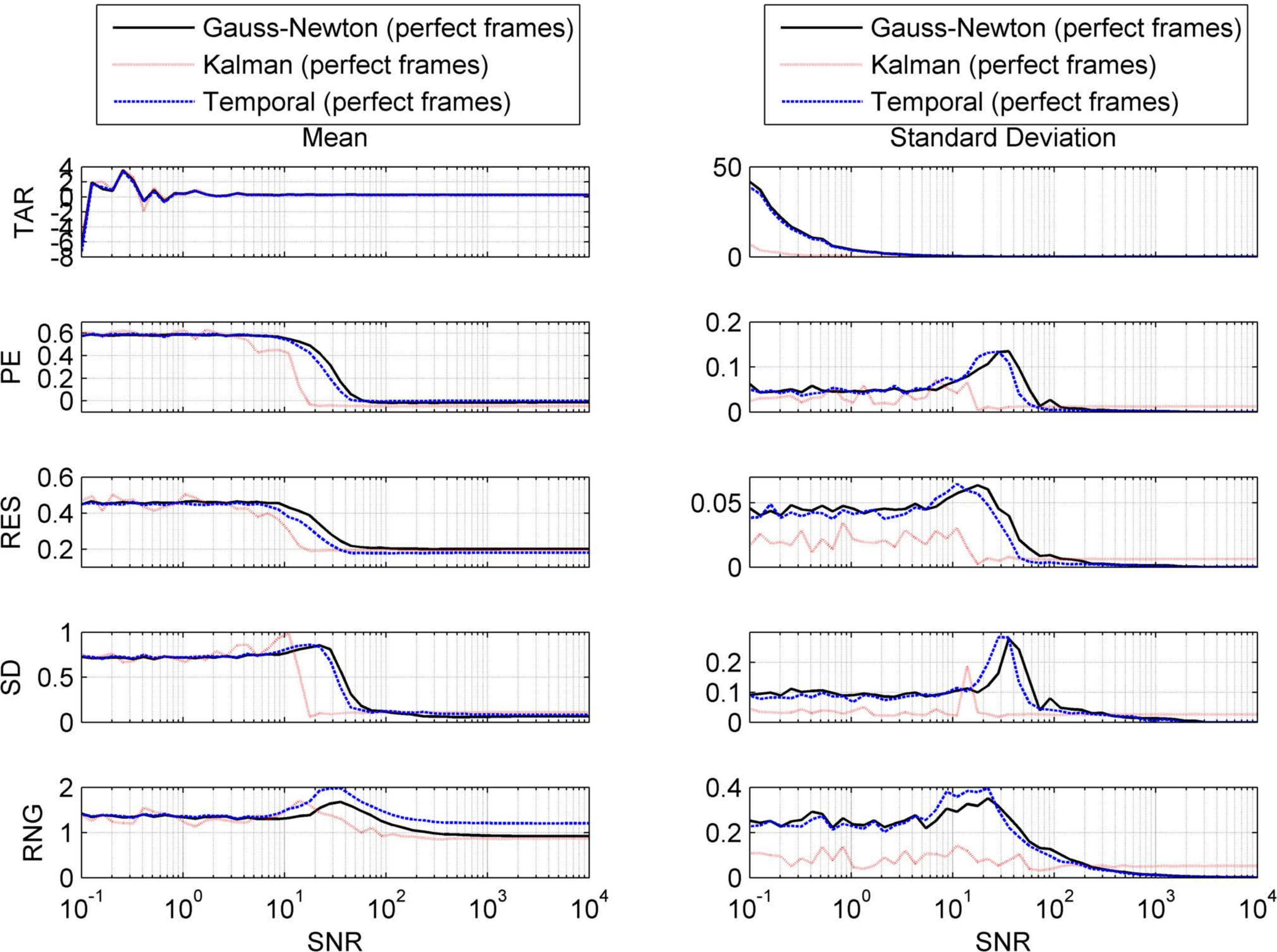




FOM as a function of radius (fraction of diameter)
Frequency = 0.1; Phase = 0; Number of cycles = 4; SNR = Inf;

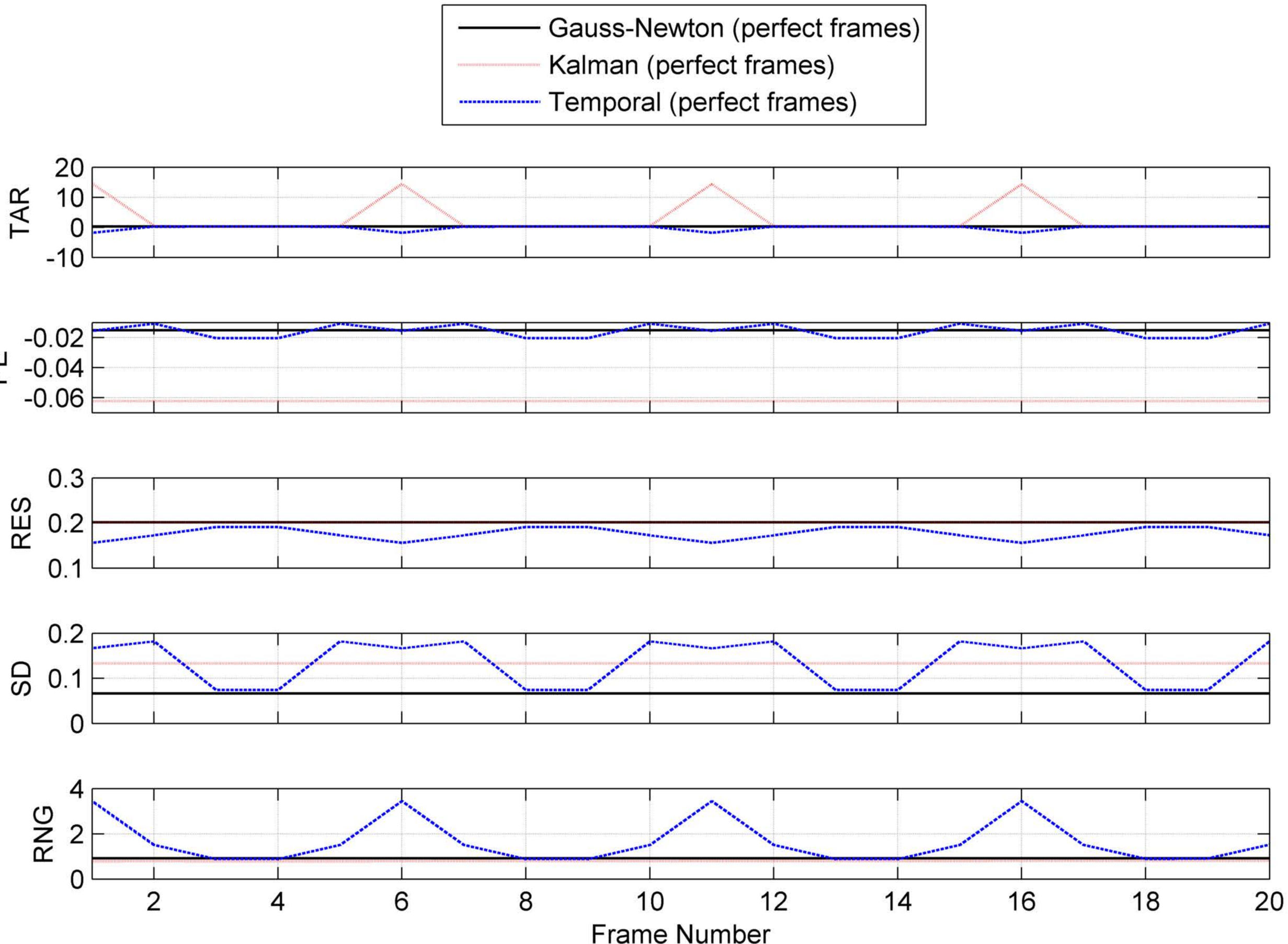


FOM as a function of SNR
Frequency = 0; Radius = 0.666667; Phase = 0; Number of cycles = 100;

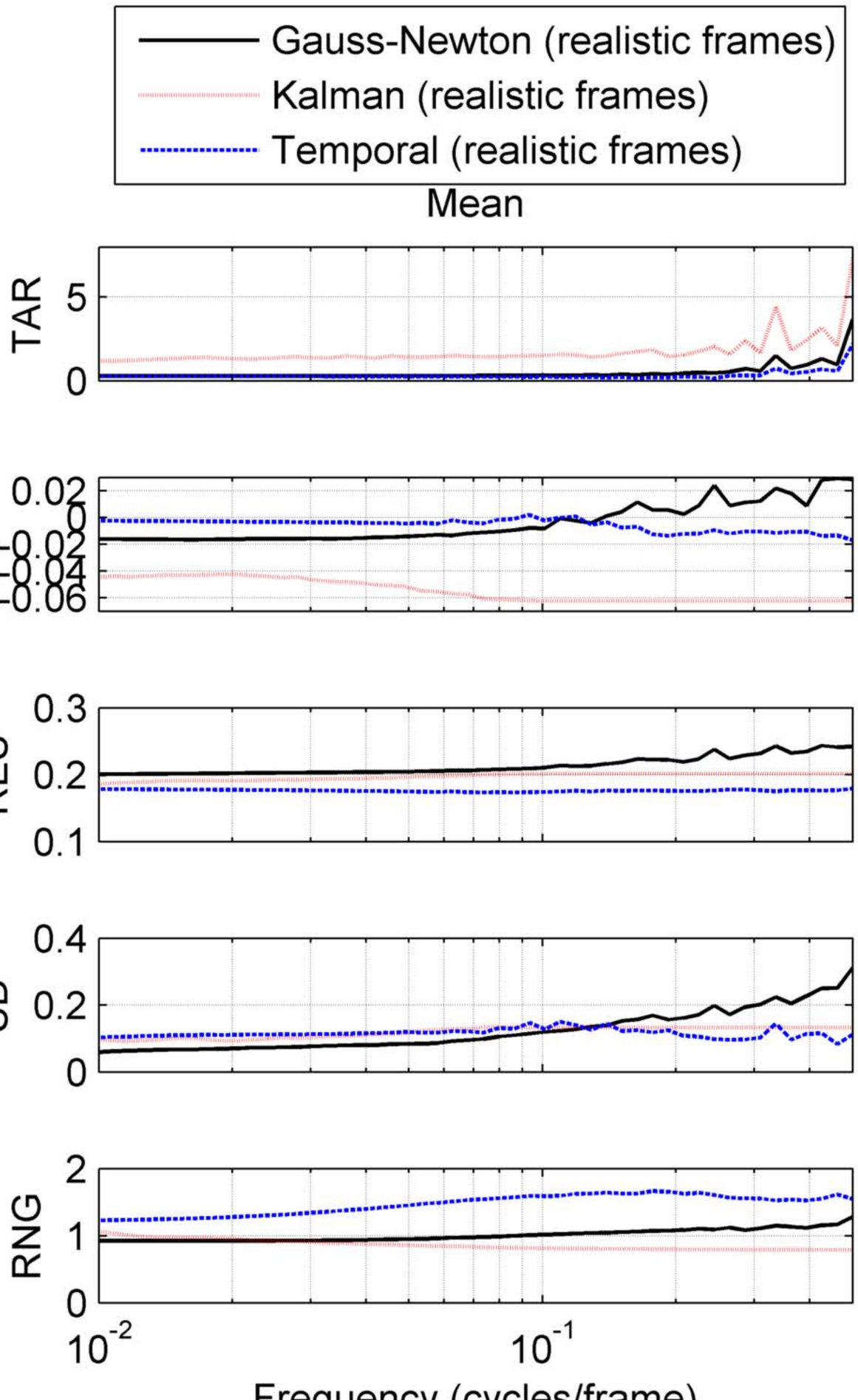


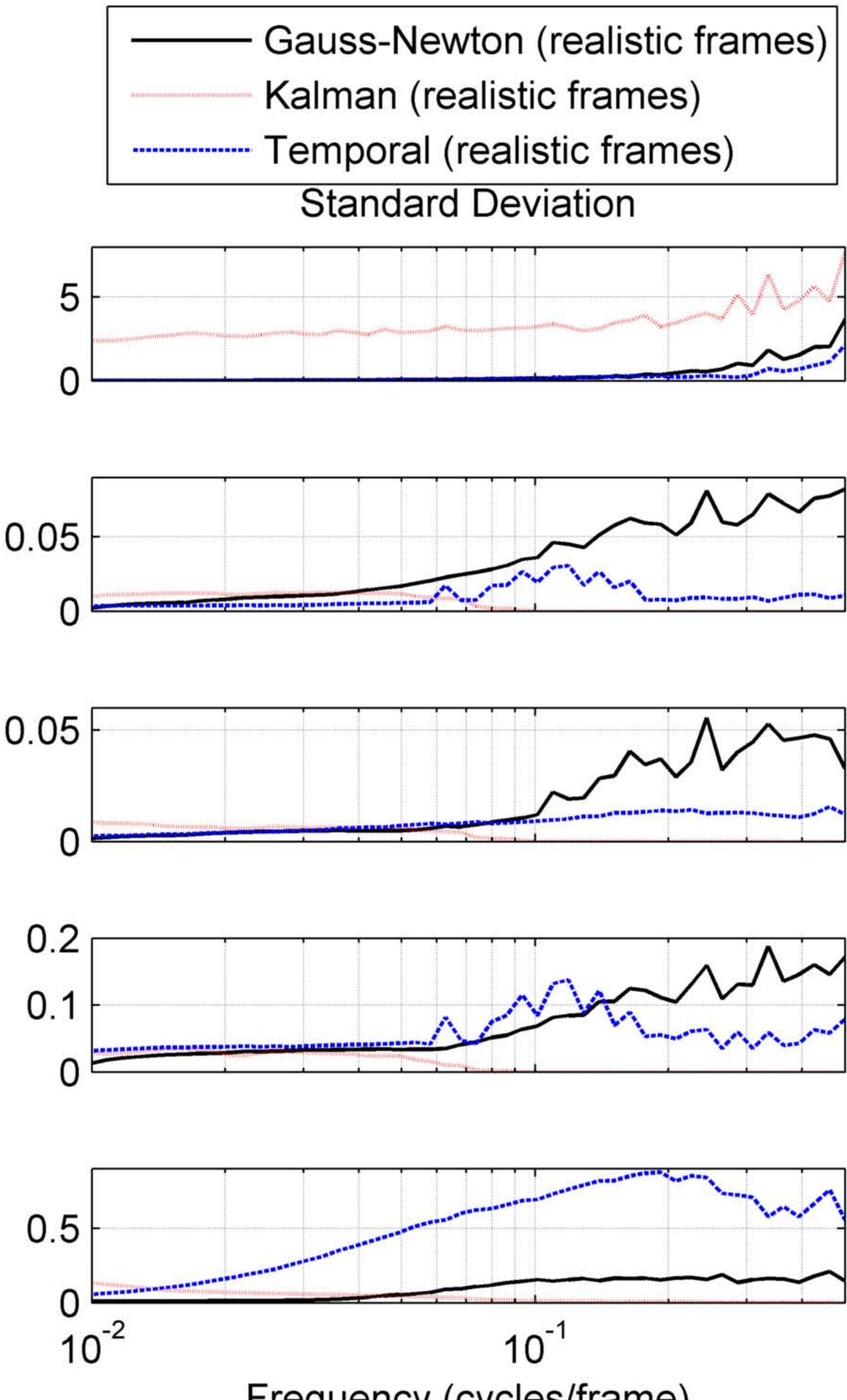
FOM as a function of time

Frequency = 0.2; Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;



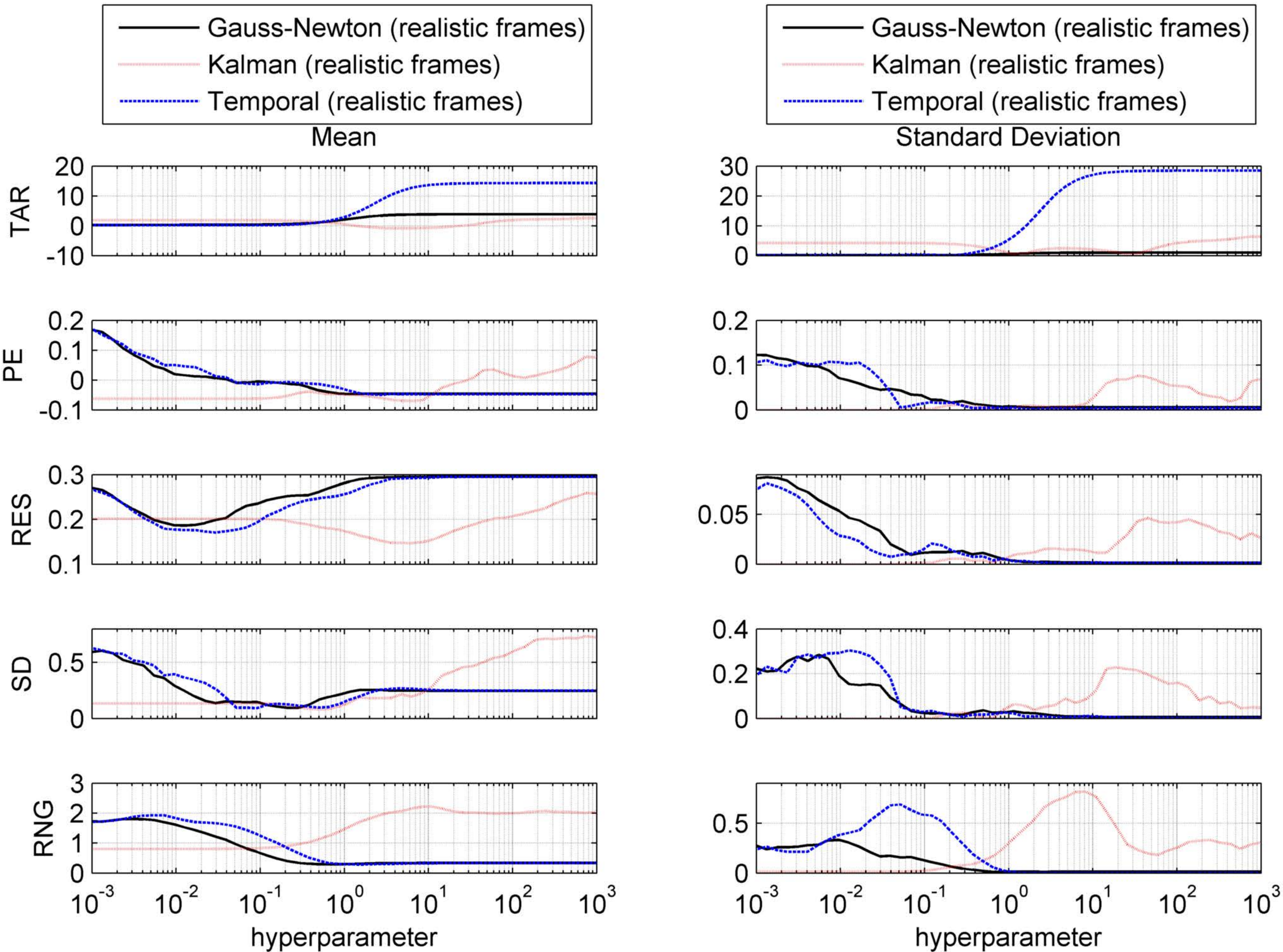
FOM as a function of frequency (cycles/frame)
Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;





FOM as a function of hyperparameter

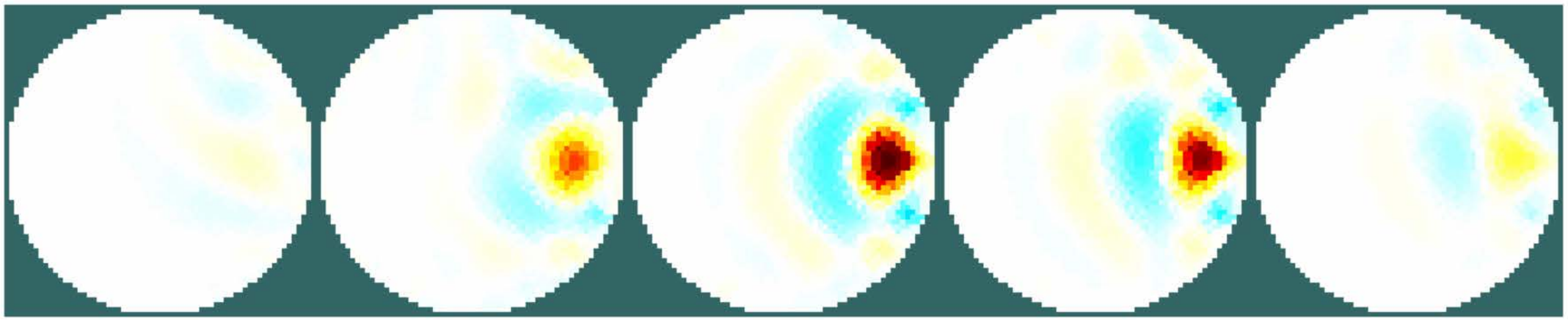
Frequency = 0.1; Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;



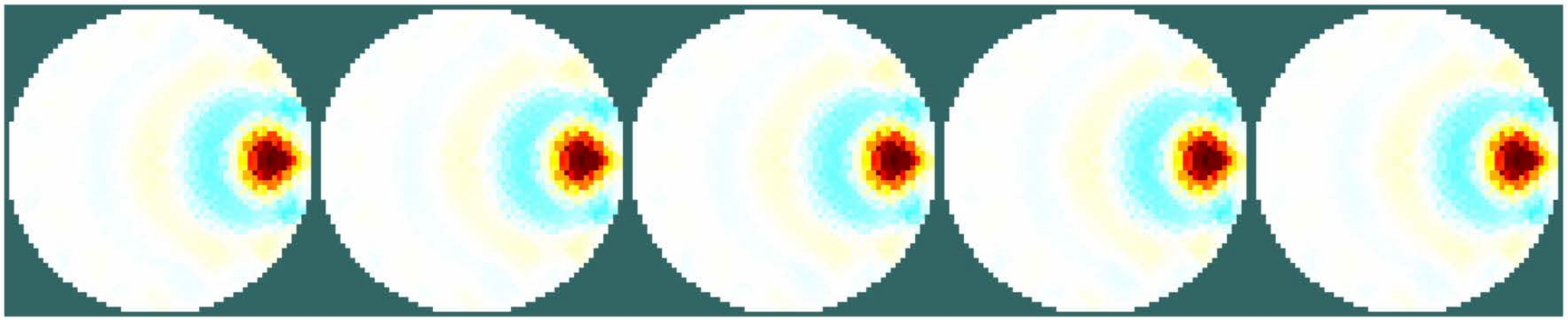
FOM as a function of time

Frequency = 0.2; Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;

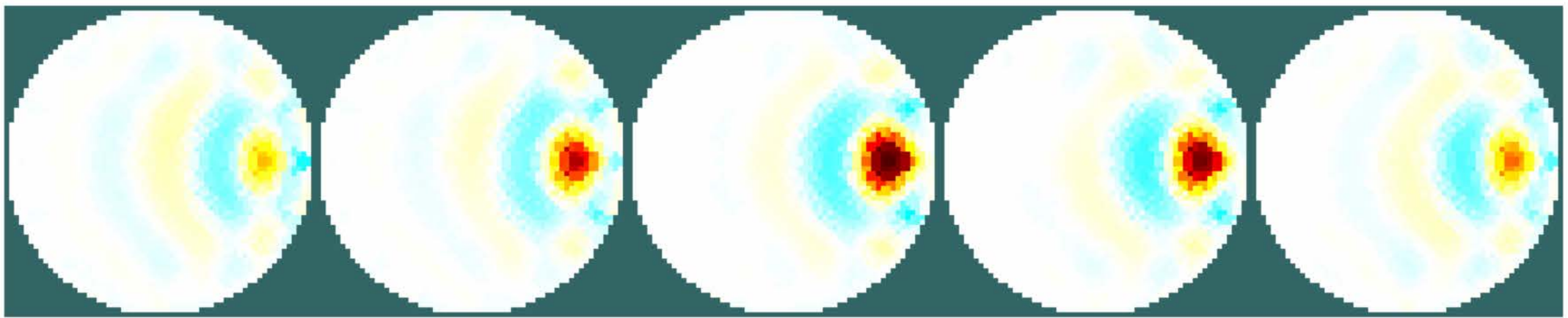
Gauss-Newton (realistic frames)



Kalman (realistic frames)



Temporal (realistic frames)



FOM as a function of number of cycles
Frequency = 0.1; Radius = 0.666667; Phase = 0; SNR = Inf;

Gauss-Newton (realistic frames)
Kalman (realistic frames)
Temporal (realistic frames)

Mean

TAR
PE
RES
SD
RNG

Standard Deviation

Number of Cycles

FOM as a function of phase (radians)
Frequency = 0.1; Radius = 0.666667; Number of cycles = 4; SNR = Inf;

Gauss-Newton (realistic frames)
Kalman (realistic frames)
Temporal (realistic frames)

Mean

TAR
2
1
0

PE
0
-0.02
-0.04
-0.06

RES
0.3
0.2
0.1

SD
0.2
0.15
0.1

RNG
2
1
0

0
100
200
300

Phase (degrees)

Gauss-Newton (realistic frames)
Kalman (realistic frames)
Temporal (realistic frames)

Standard Deviation

5
0

0.05
0

0.02
0.01
0

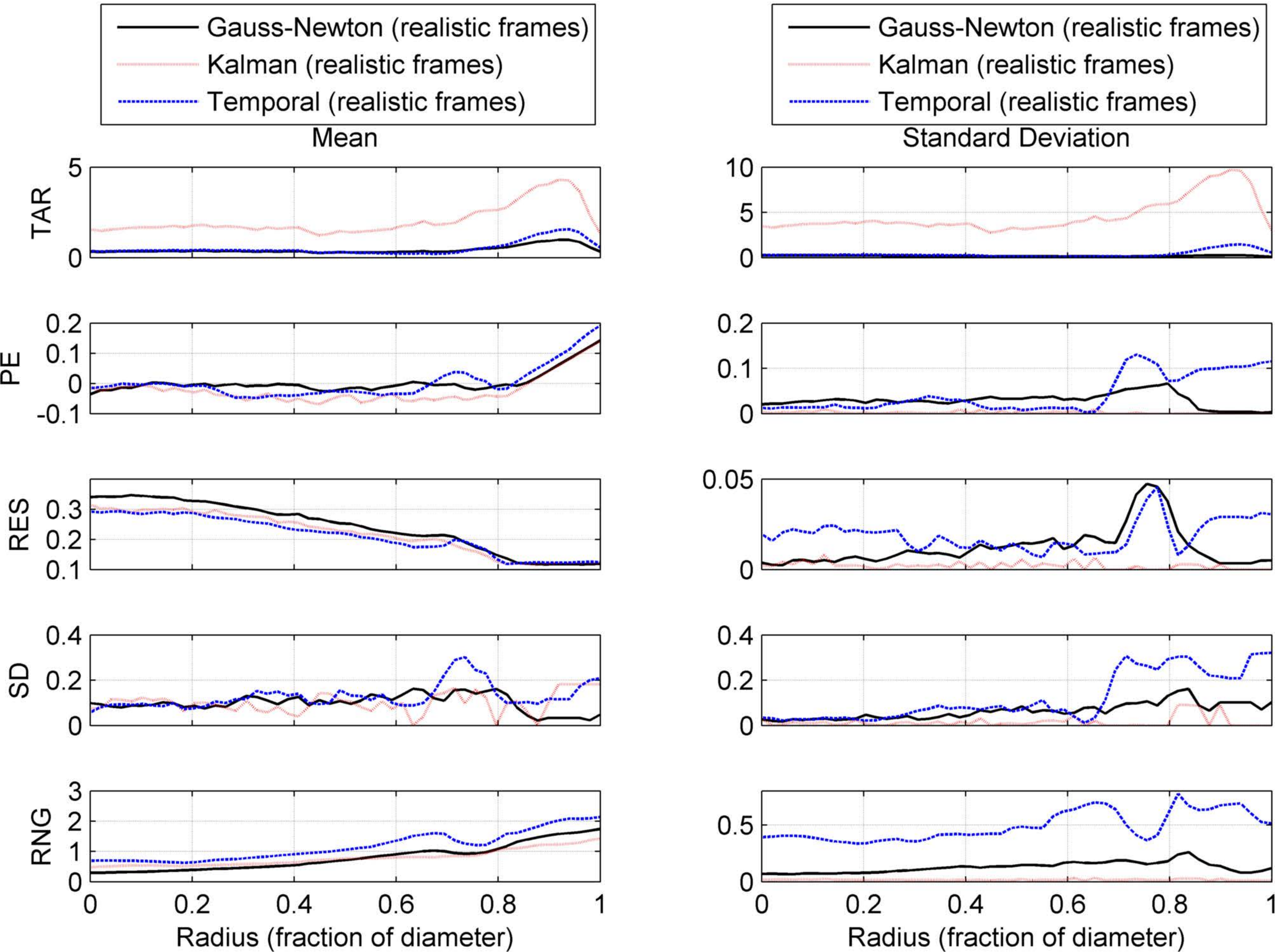
0.2
0.1
0

0.5
0

0
100
200
300

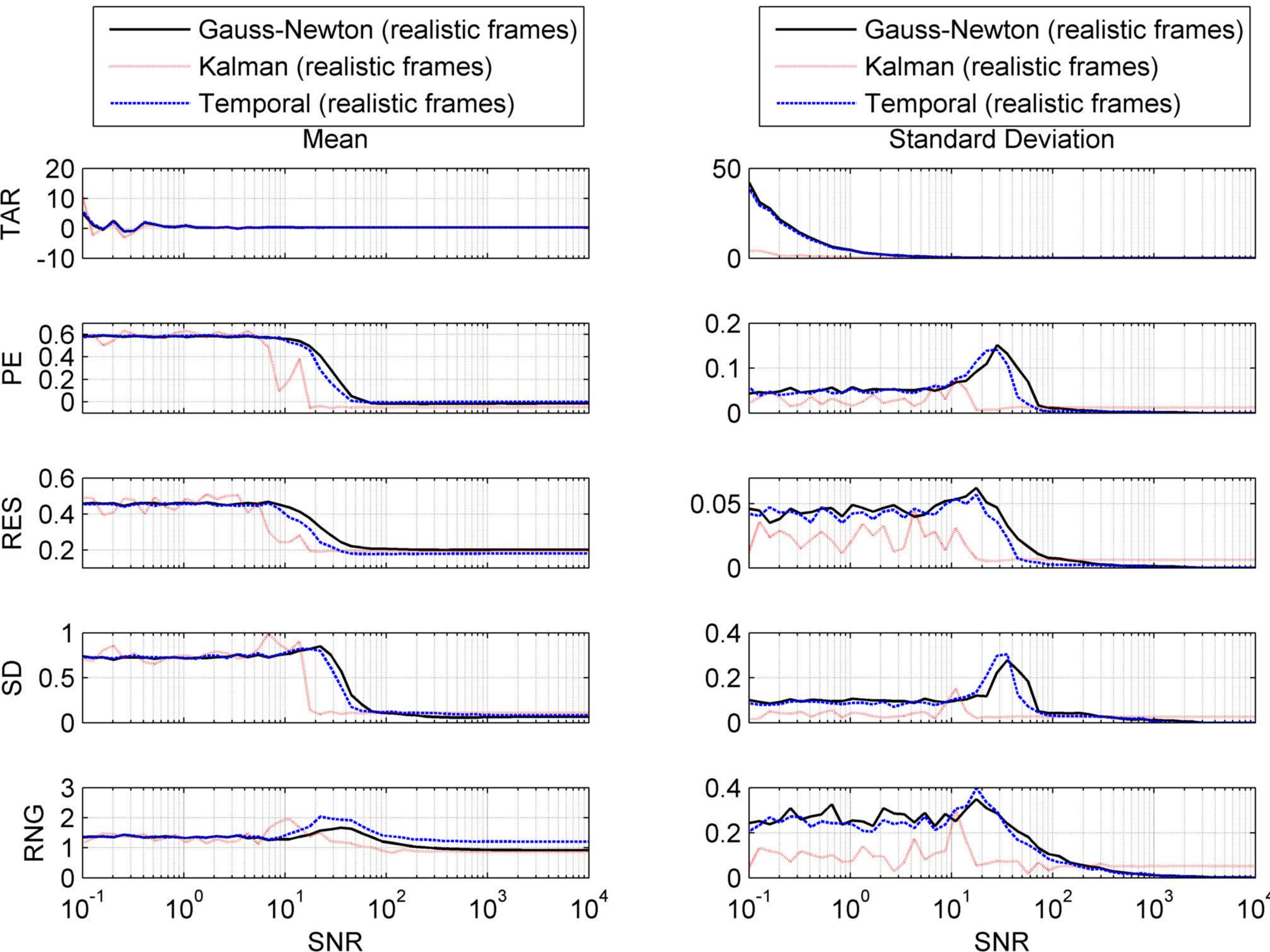
Phase (degrees)

FOM as a function of radius (fraction of diameter)
Frequency = 0.1; Phase = 0; Number of cycles = 4; SNR = Inf;



FOM as a function of SNR

Frequency = 0; Radius = 0.666667; Phase = 0; Number of cycles = 100;



FOM as a function of time

Frequency = 0.2; Radius = 0.666667; Phase = 0; Number of cycles = 4; SNR = Inf;