

Run the command

```
DS3_K_real_circ_new(3,1)
```

for the data 'wheel\_cooldown\_one\_hotspots\_15\_sensors.csv' and  
'wheel\_cooldown\_two\_hotspots\_15\_sensors.csv'.

These two data sets document a cooling process with a single heat source and two heat sources respectively. The set-up for the these two data sets is shown in the file named rim\_experiment.jpg. We used the bicycle (aluminum) wheel for the circular pattern. Fifteen (15) sensors are equidistantly placed around the perimeter of the wheel with 4.5 inches apart. The specified accuracy of the sensors is  $0.5^{\circ}\text{C}$  and the temperature samples are taken at 1.05Hz.

The following is the description about how we set up the parameters for these two data sets.

The parameters for data 'wheel\_cooldown\_one\_hotspots\_15\_sensors.csv':

Start from row 20

average every 10 rows

uniform samples 1:3:15

The iterated number for Cadzow denoising: 20

dymconv\_rec: temp=0.2

$C = \text{Kadzow2}(A, m, (1+m)/2);$

$C = \text{Kadzow2}(A, m, m+3);$

relative error:9.94%

uniform samples 2:3:15

The iterated number for Cadzow denoising: 14

dymconv\_rec: temp=0.0

$C = \text{Kadzow2}(A, m, (1+m)/2+3);$

$C = \text{Kadzow2}(A, m, m+6);$

relative error:34.29%

The parameters for data 'wheel\_cooldown\_two\_hotspots\_15\_sensors.csv':

Start from row 20

average every 10 rows

uniform samples 2:3:15

The iterated number for Cadzow denoising: 10

```
dymconv_rec: temp=0.2  
C = Kadzow2(A,m,(1+m)/2+2);
```

```
C = Kadzow2(A,m,m+4);  
relative error:12.87%
```

The parameters for data 'wheel\_cooldown\_two\_hotspots\_15\_sensors.csv':

Start from row 20

average every 10 rows

uniform samples 2:3:15

The iterated number for Cadzow denoising: 12

```
dymconv_rec: temp=0.0  
C = Kadzow2(A,m,(1+m)/2+2);  
%C = Kadzow2(A,m,(1+m)/2+3);
```

```
C = Kadzow2(A,m,m+4);  
Omega1=[2 3 5 8 10 11 14]  
relative error:12.45%  
%11.77%
```