Gaussian filtered input image for the advection with size 64x64 pixel and circular vector field.
Ground truth for Gaussian filtered image advected (64x64 pixel) over 25 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (64x64 pixel) over 25 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (64x64 pixel) with polynomial of third degree over 25 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (64x64 pixel) with polynomial of fifth degree over 25 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (64x64 pixel) over 25 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (64x64 pixel) with polynomial of third degree over 25 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (64x64 pixel) with polynomial of fifth degree over 25 time steps based on a circular vector field.
Ground truth for Gaussian filtered image advected (64x64 pixel) over 50 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (64x64 pixel) over 50 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (64x64 pixel) with polynomial of third degree over 50 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (64x64 pixel) with polynomial of fifth degree over 50 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (64x64 pixel) over 50 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (64x64 pixel) with polynomial of third degree over 50 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (64x64 pixel) with polynomial of fifth degree over 50 time steps based on a circular vector field.
Ground truth for Gaussian filtered image advected (64x64 pixel) over 100 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (64x64 pixel) over 100 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (64x64 pixel) with polynomial of third degree over 100 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (64x64 pixel) with polynomial of fifth degree over 100 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (64x64 pixel) over 100 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (64x64 pixel) with polynomial of third degree over 100 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (64x64 pixel) with polynomial of fifth degree over 100 time steps based on a circular vector field.
Ground truth for Gaussian filtered image advected (64x64 pixel) over 250 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (64x64 pixel) over 250 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (64x64 pixel) with polynomial of third degree over 250 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (64x64 pixel) with polynomial of fifth degree over 250 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (64x64 pixel) over 250 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (64x64 pixel) with polynomial of third degree over 250 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (64x64 pixel) with polynomial of fifth degree over 250 time steps based on a circular vector field.
Ground truth for Gaussian filtered image advected (64x64 pixel) over 500 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (64x64 pixel) over 500 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (64x64 pixel) with polynomial of third degree over 500 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (64x64 pixel) with polynomial of fifth degree over 500 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (64x64 pixel) over 500 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (64x64 pixel) with polynomial of third degree over 500 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (64x64 pixel) with polynomial of fifth degree over 500 time steps based on a circular vector field.
Ground truth for Gaussian filtered image advected (64x64 pixel) over 1000 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (64x64 pixel) over 1000 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (64x64 pixel) with polynomial of third degree over 1000 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (64x64 pixel) with polynomial of fifth degree over 1000 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (64x64 pixel) over 1000 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (64x64 pixel) with polynomial of third degree over 1000 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (64x64 pixel) with polynomial of fifth degree over 1000 time steps based on a circular vector field.
Gaussian filtered input image for the advection with size 128x128 pixel and a circular vector field.
Ground truth for Gaussian filtered image advected (128x128 pixel) over 25 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (128x128 pixel) over 25 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (128x128 pixel) with polynomial of third degree over 25 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (128x128 pixel) with polynomial of fifth degree over 25 time steps based on a circular vector field.

![Image of Gaussian filtered image and vector field](image_url)
BFECC integration of Gaussian filtered image (128x128 pixel) over 25 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (128x128 pixel) with polynomial of third degree over 25 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (128x128 pixel) with polynomial of fifth degree over 25 time steps based on a circular vector field.
Ground truth for Gaussian filtered image advected (128x128 pixel) over 50 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (128x128 pixel) over 50 time steps based on a circular vector field.

![Image of Gaussian filtered image](image1.png)

![Image of circular vector field](image2.png)

![Radial power spectrum](power_spectrum.png)

- **Mean of frequency**
- **99% of frequency**

Radial power spectrum:

- **r=18.81**
Backward integration of Gaussian filtered image (128x128 pixel) with polynomial of third degree over 50 time steps based on a circular vector field.

![Image](image_url)
Backward integration of Gaussian filtered image (128x128 pixel) with polynomial of fifth degree over 50 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (128x128 pixel) over 50 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (128x128 pixel) with polynomial of third degree over 50 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (128x128 pixel) with polynomial of fifth degree over 50 time steps based on a circular vector field.

![Image 1](image1.png)

![Image 2](image2.png)

![Radial Power Spectrum](radial_power_spectrum.png)
Ground truth for Gaussian filtered image advected (128x128 pixel) over 100 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (128x128 pixel) over 100 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (128x128 pixel) with polynomial of third degree over 100 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (128x128 pixel) with polynomial of fifth degree over 100 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (128x128 pixel) over 100 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (128x128 pixel) with polynomial of third degree over 100 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (128x128 pixel) with polynomial of fifth degree over 100 time steps based on a circular vector field.
Ground truth for Gaussian filtered image advected (128x128 pixel) over 250 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (128x128 pixel) over 250 time steps based on a circular vector field.

Radial power spectrum
Backward integration of Gaussian filtered image (128x128 pixel) with polynomial of third degree over 250 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (128x128 pixel) with polynomial of fifth degree over 250 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (128x128 pixel) over 250 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (128x128 pixel) with polynomial of third degree over 250 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (128x128 pixel) with polynomial of fifth degree over 250 time steps based on a circular vector field.
Ground truth for Gaussian filtered image advected (128x128 pixel) over 500 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (128x128 pixel) over 500 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (128x128 pixel) with polynomial of third degree over 500 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (128x128 pixel) with polynomial of fifth degree over 500 time steps based on a circular vector field.

Radial power spectrum

Mean of frequency
99% of frequency

r=20.74
BFECC integration of Gaussian filtered image (128x128 pixel) over 500 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (128x128 pixel) with polynomial of third degree over 500 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (128x128 pixel) with polynomial of fifth degree over 500 time steps based on a circular vector field.
Ground truth for Gaussian filtered image advected (128x128 pixel) over 1000 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (128x128 pixel) over 1000 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (128x128 pixel) with polynomial of third degree over 1000 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (128x128 pixel) with polynomial of fifth degree over 1000 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (128x128 pixel) over 1000 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (128x128 pixel) with polynomial of third degree over 1000 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (128x128 pixel) with polynomial of fifth degree over 1000 time steps based on a circular vector field.
Gaussian filtered input image for the advection with size 256x256 pixel and a circular vector field.
Ground truth for Gaussian filtered image advected (256x256 pixel) over 25 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (256x256 pixel) over 25 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (256x256 pixel) with polynomial of third degree over 25 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (256x256 pixel) with polynomial of fifth degree over 25 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (256x256 pixel) over 25 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (256x256 pixel) with polynomial of third degree over 25 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (256x256 pixel) with polynomial of fifth degree over 25 time steps based on a circular vector field.
Ground truth for Gaussian filtered image advected (256x256 pixel) over 50 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (256x256 pixel) over 50 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (256x256 pixel) with polynomial of third degree over 50 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (256x256 pixel) with polynomial of fifth degree over 50 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (256x256 pixel) over 50 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (256x256 pixel) with polynomial of third degree over 50 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (256x256 pixel) with polynomial of fifth degree over 50 time steps based on a circular vector field.
Ground truth for Gaussian filtered image advected (256x256 pixel) over 100 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (256x256 pixel) over 100 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (256x256 pixel) with polynomial of third degree over 100 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (256x256 pixel) with polynomial of fifth degree over 100 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (256x256 pixel) over 100 time steps based on a circular vector field.

Radial power spectrum

- Mean of frequency
- 99 % of frequency
BFECC integration of Gaussian filtered image (256x256 pixel) with polynomial of third degree over 100 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (256x256 pixel) with polynomial of fifth degree over 100 time steps based on a circular vector field.
Ground truth for Gaussian filtered image advected (256x256 pixel) over 250 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (256x256 pixel) over 250 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (256x256 pixel) with polynomial of third degree over 250 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (256x256 pixel) with polynomial of fifth degree over 250 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (256x256 pixel) over 250 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (256x256 pixel) with polynomial of third degree over 250 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (256x256 pixel) with polynomial of fifth degree over 250 time steps based on a circular vector field.
Ground truth for Gaussian filtered image advected (256x256 pixel) over 500 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (256x256 pixel) over 500 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (256x256 pixel) with polynomial of third degree over 500 time steps based on a circular vector field.

Radial power spectrum

- Mean of frequency
- 99% of frequency

$r=21.46$
Backward integration of Gaussian filtered image (256x256 pixel) with polynomial of fifth degree over 500 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (256x256 pixel) over 500 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (256x256 pixel) with polynomial of third degree over 500 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (256x256 pixel) with polynomial of fifth degree over 500 time steps based on a circular vector field.
Ground truth for Gaussian filtered image advected (256x256 pixel) over 1000 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (256x256 pixel) over 1000 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (256x256 pixel) with polynomial of third degree over 1000 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (256x256 pixel) with polynomial of fifth degree over 1000 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (256x256 pixel) over 1000 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (256x256 pixel) with polynomial of third degree over 1000 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (256x256 pixel) with polynomial of fifth degree over 1000 time steps based on a circular vector field.
Gaussian filtered input image for the advection with size 512x512 pixel and a circular vector field.
Ground truth for Gaussian filtered image advected (512x512 pixel) over 25 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (512x512 pixel) over 25 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (512x512 pixel) with polynomial of third degree over 25 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (512x512 pixel) with polynomial of fifth degree over 25 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (512x512 pixel) over 25 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (512x512 pixel) with polynomial of third degree over 25 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (512x512 pixel) with polynomial of fifth degree over 25 time steps based on a circular vector field.
Ground truth for Gaussian filtered image advected (512x512 pixel) over 50 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (512x512 pixel) over 50 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (512x512 pixel) with polynomial of third degree over 50 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (512x512 pixel) with polynomial of fifth degree over 50 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (512x512 pixel) over 50 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (512x512 pixel) with polynomial of third degree over 50 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (512x512 pixel) with polynomial of fifth degree over 50 time steps based on a circular vector field.
Ground truth for Gaussian filtered image advected (512x512 pixel) over 100 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (512x512 pixel) over 100 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (512x512 pixel) with polynomial of third degree over 100 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (512x512 pixel) with polynomial of fifth degree over 100 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (512x512 pixel) over 100 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (512x512 pixel) with polynomial of third degree over 100 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (512x512 pixel) with polynomial of fifth degree over 100 time steps based on a circular vector field.
Ground truth for Gaussian filtered image advected (512x512 pixel) over 250 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (512x512 pixel) over 250 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (512x512 pixel) with polynomial of third degree over 250 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (512x512 pixel) with polynomial of fifth degree over 250 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (512x512 pixel) over 250 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (512x512 pixel) with polynomial of third degree over 250 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (512x512 pixel) with polynomial of fifth degree over 250 time steps based on a circular vector field.
Ground truth for Gaussian filtered image advected (512x512 pixel) over 500 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (512x512 pixel) over 500 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (512x512 pixel) with polynomial of third degree over 500 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (512x512 pixel) with polynomial of fifth degree over 500 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (512x512 pixel) over 500 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (512x512 pixel) with polynomial of third degree over 500 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (512x512 pixel) with polynomial of fifth degree over 500 time steps based on a circular vector field.
Ground truth for Gaussian filtered image advected (512x512 pixel) over 1000 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (512x512 pixel) over 1000 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (512x512 pixel) with polynomial of third degree over 1000 time steps based on a circular vector field.
Backward integration of Gaussian filtered image (512x512 pixel) with polynomial of fifth degree over 1000 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (512x512 pixel) over 1000 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (512x512 pixel) with polynomial of third degree over 1000 time steps based on a circular vector field.
BFECC integration of Gaussian filtered image (512x512 pixel) with polynomial of fifth degree over 1000 time steps based on a circular vector field.