Figure 15.7. Temporal correlated spatial random fields for each year. Top left: 2003. Top right: 2005. Middle left: 2006. Bottom left: 2009.

15.4.6 More detailed information on the code

In this subsection we provide a more detailed explanation of the R code that we used in the previous subsection. This section is only relevant if you want to better understand the setup of the projector matrix, and if you want to create Figure 15.7. Upon first reading you may decide to skip this subsection.

Let us inspect the dimension of the projector matrix A3.

```
> dim(A3)

181 3997
```

The A3 has 181 rows (just like the projector matrix A2 from the previous subsection and this is the observed number of data points) and 3997 columns. The value of 3997 is equal to 7×571, where the 571 is the number of nodes in the mesh. The projector matrix A3 contains a projector matrix for the data of each year and it can be written as

$$A3 = \begin{bmatrix} A3_1 & A3_2 & \cdots & A3_7 \end{bmatrix}$$

By taking the first 571 columns of A3

```
> A3_1 <- A3[, 1:571]
```