Abstract: The talk is concerned with the regularity of solutions to linear and nonlinear evolution equations on nonsmooth domains. In particular, we study the smoothness in a specific scale of Besov spaces. It is known that in many cases the order of convergence of adaptive wavelet-schemes depends on the regularity of the solution in these Besov spaces. On the other hand it is the fractional Sobolev regularity which determines the rate of convergence of non adaptive (uniform) algorithms. Therefore, in order to justify the use of adaptive schemes for solving parabolic PDEs, an analysis of the regularity of the solution in the scale of Besov spaces and a comparison with its Sobolev regularity is needed. It turns out that for all cases under consideration the Besov regularity is high enough to justify the use of adaptive algorithms.