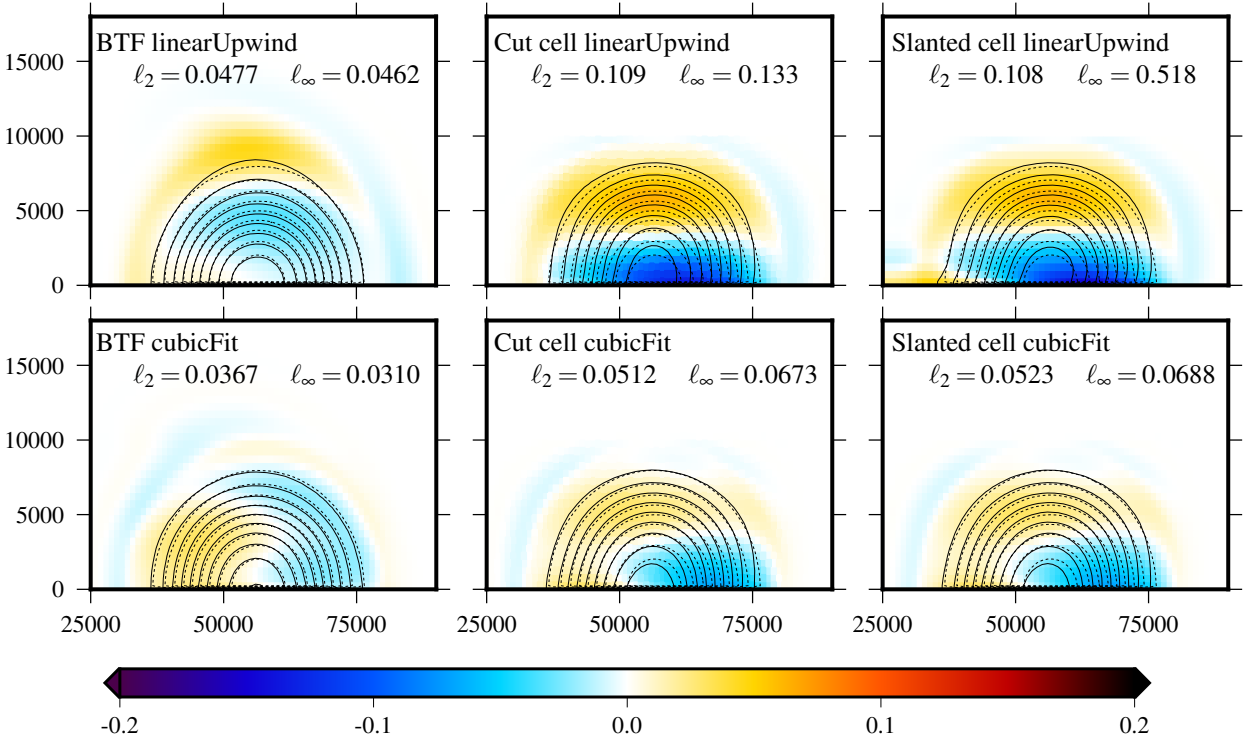

A newly-formulated two-dimensional test on an x–z plane in which a tracer placed at the ground is transported over steep wave-shaped mountains. Tracer contours at the end of integration are presented on basic terrain-following (BTF), cut cell and slanted cell meshes using a standard multi-dimensional linear upwind scheme, and our new method-of-lines transport scheme, called 'cubicFit'. The numerical solutions are marked by solid black lines. The analytic solution is marked by dotted lines. Contours are every $0.1\,\mathrm{kg\,m^{-3}}$. Normalised ℓ_2 and ℓ_∞ error norms are calculated in the usual way.