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Facing the challenge of calculating outdoor sound propagation
using a 3D multi domain approach based on linear euler equations

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Solving the Linear Euler Equations (LEE) is the reference method that allows to take into account all the phenomena involved in Outdoor Sound Propagation. However, the huge size of the problems to be treated is still a great limitation to the practical application of this method. The concept of multi domain computations associated with the use of massively parallel computers now pushes the limits away. The code SAFARI, recently developed by EDF, solves LEE with high order numerical schemes on structured grids. To deal with complex and large geometries, a multi domain approach is used. The computational domain is composed of several partially overlapping grids (overset grids). Computations are parallelized by domain decomposition to be runned on cluster facilities. The presentation means to show the capability of SAFARI to deal with propagation over realistic 3D domains. The strategy used to carry out the calculations is detailed. The new perspectives of this kind of method are finally given.