

ROBIN-ROBIN PARTITIONED PROCEDURES FOR FLUID-STRUCTURE INTERACTION PROBLEMS IN HAEMODYNAMICS

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In this talk we present a new convergence analysis of the Robin-Robin method applied to the fluid-structure interaction problem and new estimates of constant optimized interface parameters holding in the case of cylindrical interfaces, as happens in haemodynamics. Moreover, we discuss how to perform efficiently such Robin-Robin iterations when a non-linear thick structure is considered. In particular, we introduce inexact schemes where the structure problem is not solved until convergence, however featuring an excellent accuracy. Finally, we present 3D numerical results in real geometries to validate our strategies.