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NUMERICAL METHODS FOR THE MULTIPHYSICS MODELING OF BRAIN FUNCTION

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ABSTRACT

The study of brain function is an active field of clinical research, yet many questions about the physical processes underlying it are still open. In this regard, computational multiphysics models allow the investigation of the complex interplay between processes such as electrophysiology [1], fluid dynamics [2], and tissue mechanics [3]. Moreover, diagnostic data can be integrated in these models, to study the patient-specific development of pathologies like epilepsy [1] or neurodegenerative diseases [4], among others. This minisymposium aims at gathering experts on the mathematical and numerical modeling of brain function, to discuss recent advancements in both the development of numerical methods and their application to clinical problems.

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