Macro scale modelling of cortical spreading depression and the role of astrocytic gap junctions

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Highlights

- A large scale 2 dimensional model of neurovascular coupling is presented
- The model can simulate extracellular potassium waves in cortical spreading depression
- Following the potassium wave is vasoconstriction then slight vasodilation
- Potassium exchange via an astrocytic gap junction network reduces vasoconstriction