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Convective patterns in a 2d mantle convection simulation

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One of the great challenges in deep mantle physics is to develop a quantitative understanding of the dynamic processes that govern mantle convection, so that we can ascertain their respective influence from the data we have available from seismic tomography as well as magnetic observations. In this context, we explore the behaviour of convection patterns in a 2d Boussinesq fluid and analyze the emerging convection patterns in detail, so that we can later quantify the influence of more complex processes like anelasticity, complex rheologies and mineralogical composition.