



Lehrstuhl für Analysis und Modellierung

**Lehrstuhl-Seminar
Wintersemester
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Linking critical transitions in spatial systems to Busse balloon morphology: A case study of dryland vegetation patterns

4. März 2021 - 10:30
WebEx Meeting

Abstract: In drylands, vegetation self-organizes into spatially periodic patterns. The collection of stable striped patterns can be conveniently represented by a Busse balloon. Busse balloon morphology can be used to predict (hysteresis in) the desertification process, which is driven by climate change and/or the grazing regime. We compute Busse balloons by numerical continuation in two contexts:

- two spatial dimensions with advection (downhill flow of water), without grazing;
- one spatial dimension without advection, with grazing.