

*Singularities in PDE and the calculus of variations*  
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## Curve concentration in some singular perturbation problems

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### **Abstract**

In this talk I shall discuss an infinite-dimensional form of Lyapunov Schmidt reduction to establish new concentration phenomena for some singular perturbation elliptic problems. In particular, concentration on weighted geodesics in nonlinear Schrodinger equations and clustering interfaces in two-dimensional Allen–Cahn equation have been found with this method.

This is joint work with *Michal Kowalczyk* and *Juncheng Wei*.