# SLOWLY RECURRENT COLLET-ECKMANN MAPS ON THE RIEMANN SPHERE

**Abstract**: The Collet-Eckmann condition is one, quite strong, condition which is used to exhibit chaotic behaviour. For instance it implies the existence of an absolutely continuous invariant measure in many families of maps. In this talk I will focus on rational maps on the Riemann sphere and state a new result on the perturbation of such maps, when the Julia set of the whole sphere and where the critical set is allowed to be (slowly) recurrent. The result is related to an earlier result by M. Tsuji for real maps, proving that such maps are Lebesgue density points of Collet-Eckmann maps. In this rational setting, the approach is the classical parameter-exclusion techniques by M. Benedicks and L. Carleson combined with some strong results by G. Levin, J. Graczyk and S. Smirnov et al.