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**W. de Melo\*** ([demelo@impa.br](mailto:demelo@impa.br)), Estrada Dona Castorina, 110, Jardim Botânico, Rio de Janeiro, Brazil. *Chaotic Period Doubling.*

I will talk about a joint work with V.V.M.S Chandramouli, M. Martens and WC.P. Tresser on the geometry of maps in the stable manifold of the period doubling renormalization operator acting on the space of  $C^r$  unimodal maps with  $r$  around 2. The main result states that the analytic fixed point is no longer hyperbolic in the space of  $C^2$  maps and that below  $C^2$  even the uniqueness is lost. (Received February 12, 2008)