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Sergey Denisov* (denissov@math.wisc.edu), 480 Lincoln Drive, Department of Mathematics, UW-Madison, Madison, WI 53706. *The patch dynamics for the two-dimensional active scalar equations: steady states and singularity formation.*

We will consider some two-dimensional active scalar equations and focus on the evolution of the patches. We will first describe the merging mechanism for the central pair of patches. Then, the special curve of regular steady states will be presented. This curve bifurcates from the singular stationary state. (Received July 22, 2015)