

**Garra, Roberto****Confinement of a hot temperature patch in the modified SQG model.** (English)[Zbl 1418.35344](#)

Discrete Contin. Dyn. Syst., Ser. B 24, No. 6, 2407-2416 (2019).

Summary: In this paper we study the time evolution of a temperature patch in  $\mathbb{R}^2$  according to the modified Surface Quasi-Geostrophic (SQG) patch equation. In particular we give a temporal estimate on the growth of the support, providing a rigorous proof of the confinement of a hot patch of temperature in absence of external forcing, under the quasi-geostrophic approximation.

**MSC:**[35Q86](#) PDEs in connection with geophysics[76E20](#) Stability and instability of geophysical and astrophysical flows[37N10](#) Dynamical systems in fluid mechanics, oceanography and meteorologyCited in **3** Documents**Keywords:**

modified surface quasi-geostrophic equation; confinement of temperature patch; active scalar flow

**Full Text:** [DOI](#) [arXiv](#)