

SEMINARIO EDP

TITULO

ON THE MEAN FIELD EQUATION WITH VARIABLE INTENSITIES ON PIERCED DOMAINS

EXPOSITOR

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We consider the two-dimensional mean field equation of the equilibrium turbulence with variable intensities and Dirichlet boundary condition on a pierced domain

$$\begin{cases} -\Delta u = \lambda_1 \frac{V_1 e^u}{\int_{\Omega_\epsilon} V_1 e^u dx} - \lambda_2 \tau \frac{V_2 e^{-\tau u}}{\int_{\Omega_\epsilon} V_2 e^{-\tau u} dx} & \text{in } \Omega_\epsilon = \Omega \setminus \bigcup_{i=1}^m \overline{B(\xi_i, \epsilon_i)} \\ u = 0 & \text{on } \partial\Omega_\epsilon, \end{cases}$$

where $B(\xi_i, \epsilon_i)$ is a ball centered at $\xi_i \in \Omega$ with radius ϵ_i , τ is a positive parameter and $V_1, V_2 > 0$ are smooth potentials. When $\lambda_1 > 8\pi m_1$ and $\lambda_2 \tau^2 > 8\pi(m - m_1)$ with $m_1 \in \{0, 1, \dots, m\}$, there exist radii $\epsilon_1, \dots, \epsilon_m$ small enough such that the problem has a solution which blows-up positively and negatively at the points $\xi_1, \dots, \xi_{m_1}$ and $\xi_{m_1+1}, \dots, \xi_m$, respectively, as the radii approach zero.

This work is in collaboration with Pierpaolo Esposito (U. Roma Tre) and Angela Pistoia (U. Roma “La Sapienza”).

Miércoles 02 de Octubre a las 17:00 hrs, al Seminario EDP, el cual tendrá lugar en la Sala de Seminario Felipe Álvarez Daziano, 5to piso, Torre Norte de Beauchef 851.