# Global minimizers for a $p$-Ginzburg-Landau energy in the limit $p \to \infty$

**Itai SHAFRIR**

(Technion, Haifa)

We consider the minimization problem of the energy functional

$$E_p(u) = \int_{\mathbb{R}^2} |\nabla u|^p + (1 - |u|^2)^2$$

for $p > 2$ over the space of maps in $W^{1,p}_{\text{loc}}(\mathbb{R}^2, \mathbb{R}^2)$ whose degree along circles of large radii is 1. We first review previous works where:

(i) we proved existence of a minimizer for any $p > 2$,

(ii) we obtained some properties of the minimizers over the class of *radially symmetric maps*.

We then report on some recent results on the limit of the minimizers $\{u_p\}$ when $p \to \infty$.

This is a joint work with Y. Almog, L. Berlyand and D. Golovaty.