

Interior partial regularity for minimal L_p -vectorfields with integer fluxes

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We use a new combinatorial technique to prove the optimal interior partial regularity result for L_p -vectorfields with integer fluxes minimizing the L_p -energy. More precisely, we prove that the minimal vectorfields are H^{α} -older outside a set which is locally finite inside the domain. The results continue the program started in collaboration with Tristan Riviere, but this paper is self-contained.

Comments: 36 pages, 6 figures. Some typos corrected, style made more fluent, improved end of proof p. 18-19

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