

REGULARITY RESULTS FOR THE NEAR FIELD REFRACTOR PROBLEM

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ABSTRACT. We consider the near field refractor problem with bounded densities and natural convexity assumptions on the domain Ω and the target set Ω^* which are subsets of S^{n-1} . We prove C^1 regularity of generalized solutions in the sense of Alexandrov. We consider indexes of refraction κ both bigger and smaller than 1.