

EXISTENCE OF POSITIVE SOLUTIONS FOR PRESCRIBED MEAN CURVATURE PROBLEMS WITH NONLOCAL TERM VIA SUB- AND SUPERSOLUTION METHOD ^{*}

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Abstract

In this paper we are concerned with the existence of solution to the class of nonlocal quasilinear problem of the type

$$\begin{cases} -\operatorname{div}(a(|\nabla u|^2)\nabla u) = f(x, u, B(u)) & \text{in } \Omega, \\ u = 0 & \text{on } \partial\Omega, \end{cases} \quad (P)$$

where Ω is a smooth bounded domain on \mathbb{R}^N , $a : \mathbb{R}_+ \rightarrow \mathbb{R}_+$, $f : \Omega \times \mathbb{R} \times \mathbb{R} \rightarrow \mathbb{R}$ and $B : L^\infty(\Omega) \rightarrow \mathbb{R}$ are functions which hypotheses are going to given later. We use sub- and supersolution method in order to find solutions to problem (P). Further, we apply our result to some nonlocal prescribed mean curvature problems.

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