

## Wicksell problem for planar particles of random shape

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The classical planar Wicksell problem requires reconstruction of the size probability distribution for random particles (planar convex domains) uniformly and isotropically scattered in the plane, basing upon the probability distribution of lengths of intersections with individual particles observed on a test line through the collection of particles. For the classical version, where all particles have the same shape, no stable solution algorithm has been proposed. The things change if not only the size, but also the shape of the particles is allowed to be random. Randomization of shape may lead to a stable solution algorithm (a system of Volterra equations). This result is obtained by application of the Pleijel-type identity for the so-called equitangent subdomains. By now, Pleijel-type identities have proved to be useful in many problems of Stochastic Geometry.

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