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Jan Boman* (jabo@math.su.se), Department of Mathematics, Stockholm University, SE- 10691 Stockholm, Sweden. *Local injectivity of weighted Radon transforms.*

Let $m(\xi, \eta, x)$ be a given positive function and consider the Radon transform

$$R_m f(\xi, \eta) = \int f(x, \xi x + \eta) m(\xi, \eta, x) dx$$

for continuous functions $f(x, y)$ that vanish for $y < x^2$. For which $m(\xi, \eta, x)$ is it true that

$R_m f(\xi, \eta) = 0$ in some neighborhood of the origin
implies

$f(x, y) = 0$ in some neighborhood of the origin.

We will discuss some old and new results on this and related problems. (Received September 11, 2011)