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There is no local characterization of intersection bodies.

In this talk we will present an extension of the well know result of W. Weil about local characterization of zonoids to the case of intersection bodies. Our proof and construction is quite different from the zonoid case, it is absolutely self contained and based on the nice geometric properties of Radon transform. This is a part of a joint work with F. Nazarov and D. Ryabogin.