CENTERED SLICING FOR INTEGER MULTIPLICITY CURRENTS

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Abstract. Let Z be a measure zero subset of $\mathbb{S}^n \times \mathbb{R} \subset \mathbb{R}^{n+2}$. The hyperplane (of $\mathbb{R}^{n+1}$) orthogonal to $\nu \in \mathbb{S}^n$ and passing through $t\nu$, with $(\nu, t) \in Z$, is said to be a Z-hyperplane. Let Σ be the set of points $P \in \mathbb{R}^{n+1}$ such that the Z-hyperplanes through P form a bundle of positive $\mathcal{H}^n$-measure. Then Σ is purely q-unrectifiable, for all $q \geq 1$. Results about slicing a rectifiable current by hyperplanes in bundles centered at the points of an assigned rectifiable set, e.g. the current's carrier, are derived.

1991 *Mathematics Subject Classification.* Primary 49Q15, 53C65; Secondary 28A75, 28A78, 53A05.

Key words and phrases. Rectifiable sets, Slicing, Rectifiable currents, Geometric measure theory, Integral geometry.