

RADON TRANSFORM AND THE CAVALIERI
CONDITION:
A COHOMOLOGICAL APPROACH

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0. Introduction. Let P be a real n -dimensional projective space. For $k \in \mathbb{Z}$ and $\varepsilon \in \mathbb{Z}/2\mathbb{Z}$, we denote by $\mathcal{C}_P^\infty(\varepsilon|k)$ the \mathcal{C}^∞ line bundle on P whose sections f satisfy the relation

$$f(\lambda x) = (\operatorname{sgn} \lambda)^\varepsilon \lambda^k f(x) \quad \forall \lambda \in \mathbb{R}^\times,$$

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