1024-14-154 **Shin-Yao Jow*** (`syjow@umich.edu`), University of Michigan, Department of Mathematics, 530 Church Street, Ann Arbor, MI 48109-1043. *On the Mustaţă-Takagi Summation Theorem for Multiplier Ideals.*

Let $\mathfrak{a}_1, \mathfrak{a}_2$ and $\mathfrak{b} \subseteq \mathcal{O}_X$ be non-zero ideal sheaves on a smooth variety X and let α, β be positive real numbers. We will describe an exact sequence of sheaves on X which resolves the multiplier ideal $\mathcal{J}((\mathfrak{a}_1 + \mathfrak{a}_2)^\alpha \mathfrak{b}^\beta)$ by sheaves that are direct sums of $\mathcal{J}(\mathfrak{a}_1^{\alpha-t}\mathfrak{a}_2^t \cdot \mathfrak{b}^\beta)$ for various $t \in [0, \alpha]$. This, in particular, will imply the following summation formula for multiplier ideals

$$\mathcal{J}((\mathfrak{a}_1 + \cdots + \mathfrak{a}_r)^\alpha \mathfrak{b}^\beta) = \sum_{\lambda_1 + \cdots + \lambda_r = \alpha} \mathcal{J}(\mathfrak{a}_1^{\lambda_1} \cdots \mathfrak{a}_r^{\lambda_r} \cdot \mathfrak{b}^\beta).$$

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