

Multiplier ideals via Mather discrepancy

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(Submitted on 12 Jul 2011)

We define a version of multiplier ideals, the Mather multiplier ideals, on a variety with arbitrary singularities, using the Mather discrepancy and the Jacobian ideal. In this context we prove a relative vanishing theorem, thus obtaining restriction theorems and a subadditivity and summation theorems. The Mather multiplier ideals also satisfy a Skoda type result. As an application, we obtain a Briançon-Skoda type formula for the integral closures of ideals on a variety with arbitrary singularities.

Comments: 17 pages, no figure

Subjects: **Algebraic Geometry (math.AG)**

MSC classes: 14F18, 14B05

Cite as: **arXiv:1107.2192 [math.AG]**(or **arXiv:1107.2192v1 [math.AG]** for this version)

Submission history

From: Shihoko Ishii [[view email](#)]

[v1] Tue, 12 Jul 2011 06:01:28 GMT (17kb)

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