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Eloísa Grifo*, eloisa.grifo@virginia.edu. *Symbolic powers: the Containment Problem and Harbourne's conjecture*. Preliminary report.

The Containment Problem for ordinary and symbolic powers of ideals asks when the containment $I^{(a)} \subseteq I^b$ holds. If I is a radical ideal in a regular ring, a famous result by Ein-Lazarsfeld-Smith, Hochster-Huneke and Ma-Schwede partially answers this question. Harbourne proposed an improvement on this result, which unfortunately does not hold in full generality. In this talk, we will discuss versions of Harbourne's Conjecture that do hold. (Received September 21, 2017)