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Piotr Hajlasz* (hajlasz@pitt.edu) and **Behnam Esmayli**. *Metric area and coarea formulas*. Preliminary report.

In 1994 Kirchheim generalized the classical area formula to the case of Lipschitz mappings into metric spaces. In 2008 independently, Karmanova and Reichel generalized the classical Federer coarea formula to the case of Lipschitz mappings into metric spaces. In the talk which is based on my recent work with my graduate student Behnam Esmayli, I will discuss a new approach to these formulas. The idea is to show that the metric area formula is a consequence of the change of variables formula for diffeomorphisms while the metric coarea formula is a consequence of such change of variables, an abstract version of the implicit function theorem and the Fubini theorem. (Received January 19, 2021)