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Mass and Riemannian Polyhedra

We show a new formula for the ADM mass as the limit of the total mean curvature plus the total defect of dihedral angle of the boundary of large polyhedra. In the special case of coordinate cubes, we will show an integral formula relating the n-dimensional mass with a geometrical quantity that determines the (n-1)-dimensional mass. This is joint work with Pengzi Miao.