Differential geometry of folding and fracturing of crust

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When the Riemannian manifold of \( V_N \) dimension with non-zero Euler-Schouten curvature tensor exists in the enveloping manifold (Euclid space) of \( V_M \) dimension, the including Riemannian manifold of \( V_N \) protrudes into the enveloping manifold of \( V_M \) dimension. From the Euler-Schouten curvature tensor and force-balance equation, Kondo (1955) derived a unified theory on yielding or buckling of plates or shells. By using this concept of protrusion into high order spaces, we present a unified equation on yielding or buckling of crust.

Keywords: Euler-Schouten curvature tensor, Riemannian manifold, crust, fold, fracture