1021-53-206   **Eric L Grinberg*** (`grinberg@unh.edu`), Department of Mathematics & Statistics, University of New Hampshire, Durham, NH 03824, and **Haizhong Li** (`hli@math.tsinghua.edu.cn`), Department of Mathematical Sciences, Tsinghua University, Beijing, Peoples Rep of China. *A moment variant of Gauss-Bonnet for hypersurfaces of spaces of constant curvature.* Preliminary report.

The classical Gauss-Bonnet Theorem identifies the global integral of Gauss curvature G on a surface M with a topological invariant. K.P. Grotemeyer (1963) gave a moment variant of Gauss-Bonnet for a closed surface in $\mathbf{R}^3$: $\int_M (\vec{a} \cdot \vec{n})^2 \, G \, dv = \frac{2\pi}{3}\chi(M)$. Here $\vec{n}$ is the normal vector field and $\vec{a}$ is a constant unit vector. We give an extension of this result to even-dimensional hypersurfaces in space forms. (Received September 05, 2006)