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*A short note on  $f$ -biharmonic hypersurfaces*

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**Abstract:** In the present paper we give some properties of  $f$ -biharmonic hypersurfaces in real space forms. By using the  $f$ -biharmonic equation for a hypersurface of a Riemannian manifold, we characterize the  $f$ -biharmonicity of constant mean curvature and totally umbilical hypersurfaces in a Riemannian manifold and, in particular, in a real space form. As an example, we consider  $f$ -biharmonic vertical cylinders in  $S^2 \times \mathbb{R}$ .

**Keywords:**  $f$ -biharmonic maps;  $f$ -biharmonic hypersurface

**AMS Subject Classification:** 58E20, 53C25, 53C43

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