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**Title:** Explicit description of three-dimensional homogeneous Ricci soliton

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The purpose of this article is to describe explicitly the three-dimensional homogeneous Ricci soliton with isometry group of dimension 4. That with the work of BAIRD and DANIELO [3] with isometry group of dimension 3 complete the description of all simply connected three-dimensional homogeneous Ricci solitons. We describe the family of vectors field in  $\mathbb{S}^2 \times \mathbb{R}$ ,  $\mathbb{H}^2 \times \mathbb{R}$  and  $\text{Nil}^3$  that provides a Ricci soliton structure.

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