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EIGENVECTORS OF THE SO(3,$\mathbb{R}$) MATRICES

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Abstract. Let $R = (r_{ij}) \in$ SO(3,$\mathbb{R}$). We give several different proofs of the fact that the vector

$$V := \Big(\frac{1}{r_{23}+r_{32}}, \frac{1}{r_{13}+r_{31}}, \frac{1}{r_{12}+r_{21}}\Big)^t$$

if it exists, is an eigenvector of R corresponding to the eigenvalue one.
MSC:15A18, 15-01, 97Axx
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Contents

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