

Year: 2008

Vol.: 72

Fasc.: 1-2

**Title:** The  $\mathcal{L}$ -dual of a Matsumoto space

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In [?], [?] the  $\mathcal{L}$ -duals of a Randers and Kropina space were studied. In this paper we shall discuss the  $\mathcal{L}$ -dual of a Matsumoto space. The metric of this  $\mathcal{L}$ -dual space is completely new and it brings a new idea about  $\mathcal{L}$ -duality because the  $\mathcal{L}$ -dual of Matsumoto metric can be given by means of four quadratic forms and 1-forms on  $T^*M$  constructed only with the Riemannian metric coefficients,  $a_{ij}(x)$  and the 1-form coefficients  $b_i(x)$ .

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