one

Thus, for the Cartan space (M, F) ~~we~~ always can locally associate a Finsler space (M, F) which will be called the L-dual of a Cartan space $(M, C_{|U^*})$. ~~Vice versa~~, we can associate, locally, a Cartan space to every Finsler space which will be called the L-dual of a Finsler space $(M, F_{|U})$.

Conversely,

puneți α

$\nexists$ mathcal L

2 The (α, β) Finsler - (α^*, β^*) Cartan L-duality

( )

Theorem 2.1([3, 8]) Let (M, F) be a Randers space and $b = (a_{ij}b^i b^j)^{\frac{1}{2}}$ the Riemannian lengh of b_i. Then:

1. If $b^2 = 1$, the L-dual of (M, F) is a Kropina space on T^*M with:

$$H(x,p) = \frac{1}{2}\left(\frac{a^{ij}p_i p_j}{2b^i p_i}\right)^2. \qquad (14)$$

(2.1)

2. If $b^2 \neq 1$, the L-dual of (M, F) is a Randers space on T^*M with:

$$H(x,p) = \frac{1}{2}\left(\sqrt{\tilde{a}^{ij}p_i p_j} \pm \tilde{b}^i p_i\right)^2, \qquad (15)$$

(2.2)

where

$$\tilde{a}^{ij} = \frac{1}{1-b^2}a^{ij} + \frac{1}{(1-b^2)^2}b^i b^j; \quad \tilde{b}^i = \frac{1}{1-b^2}b^i ,$$

,

(in (15) '$-$' corresponds to $b^2 < 1$ and '$+$' corresponds to $b^2 > 1$).

rândul liber

fără e final

Theorem 2.2([3, 8])The L-dual of a Kropina space is a Randers space on T^*M with the Hamiltonian:

$$H(x,p) = \frac{1}{2}\left(\sqrt{\tilde{a}^{ij}p_i p_j} \pm \tilde{b}^i p_i\right)^2, \qquad (16)$$

(2.3)

where

$$\tilde{a}^{ij} = \frac{b^2}{4}a^{ij}; \quad \tilde{b}^i = \frac{1}{2}b^i ,$$

,

(in (16) '$-$' corresponds to $\beta < 0$ and '$+$' corresponds to $\beta > 0$).

rândul liber

In [3] $\alpha^* = (a^{ij}(x)p_i p_j)^{\frac{1}{2}}$, $\beta^* = b^i(x)p_i$, where $a^{ij}(x)$ are the reciprocal components of a_{ij} and $b^i(x)$ are the components of the vector field on M, $b^i(x) = a^{ij}(x)b_j(x)$. We can consider the metric functions $K = \alpha^* + \beta^*$ (Randers metric on T^*M) or $K = \frac{\alpha^{*2}}{\beta^*}$ (Kropina metric on T^*M) defined on a domain $D^* \subset T^*M$. So, ~~we~~ can ~~easyly~~ rewrite the previous theorems:

the notations $\alpha^* = \dots$, $\beta^* = \dots$ are used, where ...

Theorem 2.1' Let (M, F) be a Randers space and $b = (a_{ij}b^i b^j)^{\frac{1}{2}}$ the Riemannian lengh of b_i. Then:

One

easily

Nu folosiți "we" decât despre rezultatele originale din lucrare. Ceea ce au făcut alții și numai citați aici se specifică impersonal cu "one",