$$(4) \qquad \underset{(\omega)}{\overset{(2)}{L}} = \underset{(\omega)}{L}(D) \setminus \underset{(\omega)}{\overset{(1)}{L}}$$

If $\left(E,\omega,\overset{(1)}{D}\right) = \underset{(\omega)}{L_1}\left(\overset{(1)}{D}\right) \overset{\omega}{\sim} \left(E,\omega,\overset{(2)}{D}\right) = \underset{(\omega)}{L_2}\left(\overset{(2)}{D}\right)$ and $\underset{(\omega)}{L_1}\left(\overset{(1)}{D}\right) \subset \underset{(\omega)}{\overset{(2)}{L}}$

then $\underset{(\omega)}{L_2}\left(\overset{(2)}{D}\right) \subset \underset{(\omega)}{\overset{(2)}{L}}$.

Proposition (6). If $\underset{(\omega)}{L_1}\left(\overset{(1)}{D}\right) \overset{\omega}{\sim} \underset{(\omega)}{L_2}\left(\overset{(2)}{D}\right)$ and $\underset{(\omega)}{L_1}\left(\overset{(1)}{D}\right) \subset \underset{(\omega)}{\overset{(1)}{L}}$,

then $\underset{(\omega)}{L_1}\left(\overset{(1)}{D}\right) \equiv \underset{(\omega)}{L_2}\left(\overset{(2)}{D}\right) = \underset{(\omega)}{C}\left(\overline{D}\right)$,

where $\overline{D}$ is the common ω-compatibilisation of the linear connections $\overset{(1)}{D}, \overset{(2)}{D}$.

Proposition (7). Let us consider the mean connection $\overset{(m)}{D}$ of two linear connections $\overset{(1)}{D}, \overset{(2)}{D}$.

If

$$(5) \qquad \underset{(\omega)}{L_1}\left(\overset{(1)}{D}\right) \overset{\omega}{\sim} \underset{\omega}{L_2}\left(\overset{(2)}{D}\right)$$

then

$$(6) \qquad \underset{(\omega)}{L_1}\left(\overset{(m)}{D}\right) \subset \underset{(\omega)}{C}\left(\overline{D}\right)$$

where $\overline{D}$ is the common c-compatibilisation of the connections $\overset{(1)}{D}, \overset{(2)}{D}$.

Namely the mean connection of any two ω-conjugated linear connection is ω-selfconjugated one.

The mean Hamiltonian model $\underset{(\omega)}{L}\left(\overset{(m)}{D}\right) = \left(E,\omega,\overset{m}{D}\right)$ is always ω-compatible with any model from the class $\underset{(\omega)}{C}\left(\overline{D}\right)$ where $\overline{D}$ is the ω-compatibilisation of the mean connection and also of those connections from respective class.

Generally speaking the mean connection $\overset{(m)}{D}$ is different from $\overline{D}$. An extended study of other situations can be founded in References.

As a summary we have:

Proposition (8). The set of the Hamiltonian models admits the partition:

$$(7) \qquad \underset{(\omega)}{L} = \underset{(\omega)}{\overset{(1)}{L}} \cup \underset{(\omega)}{\overset{(2)}{L}}; \underset{(\omega)}{\overset{(1)}{L}} \cap \underset{(\omega)}{\overset{(2)}{L}} = \Phi$$

where $\underset{(\omega)}{\overset{(1)}{L}}$ admits the partition in equivalence classes (2) (3).

Therefore we have a criterion to compare two Hamiltonian models , given by Proposition (8).

This criterion is a natural one and a very general one because it is related only with the conservation of the ω-conjugation of the directions at the natural parallel transport with respect to these two linear connections.

Some applications of these results to the cases of the tangent bundle TM and cotangent bundle T^*M will guide us to new results in the Hamiltonian theory.

Starting from the general theory which was elaborated by the second author the first author obtain for the natural structure ω on the almost hermitian model of a Generalized Lagrange Space [3] a concrete form of the ω-conjugation and also give simple expressions of the relations between the tensorial d-components of the curvature tensors defined by $\overset{(1)}{D}, \overset{(2)}{D}$, if $\overset{(1)}{D}, \overset{(2)}{D}$ are normal linear d-connections on $E = TM$.

Using these results and the above classification we will obtain new results in the Hamiltonian mechanical systems theory.

We are working on this. The relation between the pseudo-Riemannian conjugations [6] and the ω-conjugations in the cases TM and T^*M is also studied by the authors.

We will highlight the relations between the relativistic models and the Hamiltonian models

A very important problem is to obtain the linear connection transformations $\tau_1 : \overset{(1)}{D} \to \overset{\underline{(1)}}{D}; \tau_2 : \overset{(2)}{D} \to \overset{\underline{(2)}}{D}$ which preserve the ω-compatibility criterion of the Hamiltonian models.

General curvature invariants will corresponds to these transformations.

The authors are working on this and they will present these results into a future paper.

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