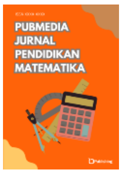

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G- Contant of Generalied Veissman Grey Manifold

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Abstract: We shall examine the geometrical conharmonic tensor in this essay. The primary aim of this work is to examine certain geometric characteristics of the Veissman Grey manifold charactered by flat circular curvature. The flatness quality of the circular tandem is employed to establish essential conditions for the Veissman Grey manifold, as well as for locally conformal, Kohler, and manifolds, and to identify new relationships among them. Additionally, these manifolds possess classical characteristics that enable them to regain the Hermitical manifold's Riemannian structure. We also investigated the sectional curvature, which furnished us with a wealth of information regarding Riemannian geometry, a field that is essential to differential geometry. In order to keep these harmonic functions consistent, circular transformations played a significant role in Rumanian structural alterations.

Keywords: Contant, Veissman Grey Manifold, Nearly Kohler, Riemannian Structural

Introduction

The Hermitical manifold is a key Comparative geometry topic. In order to accurately ascertain its specifications and characteristics, this subject was categoried into avariety of components. Subsequently, a critical issue emerged the classification of thevarious classes of nearly Hermitical manifolds based on specific characteristics (Rawah, 2015). Numerous scholars delved into the study of the nearly Hermitical manifold (Singh & Pandey, 2013). Uncovering numerous significant geometrical features (Mileva, 2003). A Russian scientist by the name of Kerichenko is one of them (Kirichenko, 2001). He employed N- space to analyses the Hermitical manifold, which is not dependent on a manifold, rather on a sub principle of all problematic framing' aggregate optic bundles (Mohammed & Shiha, 2018). This basic concept is referred to as the adjoin N-structure space (Kirichenko, 1975). These steps helped us learn more about the projective tensor of the GV-manifold class (Shihab & Ali, 2023). It is shown by the class $W_1 1$ and W_1 where $W_1 \oplus W_4$ are the nearly kehler manifold and the locally conformal Kohler manifold, respectively (Gray, 1980). In the year 1994, Kerichenko and Shcahipkova conducted research on the class$W_1 \oplus W_4$ that was referred to as the Veissman Grey manifold (Kirichenko & Shipkova, 1994). They discovered the structure equation for it in the G-structure space that was adjacent to it (Taleshian &

Asghari, 2010). The conformal invariant of class W1⊕W4 was explored by Kerichenko and Eshova in 1996 (Kirichenko & Ishova, 1996). An investigation into the geometry of the conhormonic curvature tensor of a nearly Hermitical manifold was carried out by Ali Shihab (Shihab, 2011). It is possible for these curved tensors to be conharmonic. Kerichenk and Shachepkova figure out the equations of a proper GV-manifold in terms of organized and vertices teasers (Ignatochkina, 2001). In particular, Veissman Grey proved that the holomorphic conharmonic (HPK(n)) curvature tensors trays the same at each point if the elements of the sectional holomorphic (SH curvature) tensor in the adjacent N-structure meet certain conditions (Kirichenko, 2003). The foundation $\{a_1,\ldots,a_n\}$ is designated a genuine competent HA-structural basis {h, f} (Kobayashi & Nomizu, 1994) .This basis is sometimes called as an almost structure basis or nearly basis when j_1 =m(a_e) is the frame's equivalent. We call this an A-frame (Ebtihal, Ali & Qasim, 2020).

Methodology

Definition (Rachevski, 1955)

A Ricci tensor is a type of tensor that has the definition of t_{ji}=$T^{m}_{jim} = h^{mv}T_{mjiv}$. This tensor comes with the type (2,0).

Definition (Abood & Abed, 2015)

The components of the tensor Ricci of the Veissman Grey manifold are provided in the following ways in the adjoin N-structure space:

1- $t_{eb} = \frac{1-n}{2}(\alpha_{ep} + \alpha_{pe} + \alpha_e + \alpha_p)$

2- $r_{\hat{e}p} = t^{e}_{p} = 3B^{ceh}B_{cpk} + A^{ca}_{cp} + \frac{n-1}{2}\left(\alpha^e\alpha_p - \alpha^k\alpha_k\right) - \frac{1}{2}\alpha^k{}_k\lambda^e_p + (n-2)\alpha^e{}_p$

Definition (Ishi, 1957)

Consider the Veissman Grey Manifold (w, I, d).The HA manifold of conharmonic tensor of type (4, 0) has the following definition:

$$Z_{jimv} = T_{jimv} - \frac{1}{2(x-1)}[t_{jv}d_{im} - t_{iv}d_{jm} + t_{im}d_{il} - t_{jm}d_{im}] \ \ldots \quad (1)$$

Ricci tensor, Riemannian curvature tensor, Riemannian metric: t, T, d correspondingly. Furthermore fulfills every criterion of algebraic curvature tensor:

$$\left.\begin{array}{l} 1)\ R(B,A,S,Q) = -R(A,B,S,Q); \\ 2)\ R(B,A,S,Q) = -R(B,A,Q,S); \\ 3)\ R(B,A,S,Q) + R(A,S,B,Q) + T(S,B,A,Q) = 0 \\ 4) R(B,A,S,Q) = R(S,Q,B,A); \\ \quad \forall B,A,S,Q \in B(W) \end{array}\right\} \ldots (2)$$

Theorem (Abdulameer, 2016)

These are the shapes of the parts of the conharmonic tensor of the GV-manifold in the adjoin G-structure space:

i) $R_{epfg} = 2(N_{ep[fg]} + \alpha_{[e}N_{p]fg});$

ii) $R_{\hat{e}pfg} = 2H^{e}_{pfg} + \frac{1}{2(x-1)}(t_{pg}\lambda^{e}_{c} - t_{pf}\lambda^{e}_{dg});$

iii) $R_{\hat{e}\hat{p}fg} = 2\left(-N^{eph}N_{hfg} + a^{[e}_{[f}\lambda^{p]}_{g]}\right) - \frac{1}{(x-1)}(t\lambda^{p]}_{f} - t^{[p}_{f}\lambda^{e]}_{g});$
iv) $R_{\hat{e}pf\hat{g}} = H^{eg}_{pf} + N^{egh}N_{hpf} - N^{eh}{}_{c}N_{hp}{}^{g} - \frac{1}{(x-1)}(t^{(e}_{(f}\lambda^{g)}_{p)});$

Definition (Saadan, 2011)
An AH- manifold W^{2x} is conharmonic constant type (G- contant type)
If $B, A, S, Q \in N(W^{2x})$. That
$\mu(N, A, S, Q) = \mu(N, A, S, W) - \mu(N, A, JS, JW)$
consider the following tensor $\mu(N, A) = \mu(N, A, A, N)$
An HA manifold W is said to be of contant at b. Assuming that for everyone $N \in R_b\ (W)$
$\mu(N, A) = \lambda(N, S)$…..(3)

Theorem*
W is the manifold of contant if, and only, if it is the Veissman Grey manifold of the conharmonic tensor.

$$\mu(N, A) = \mu(N, S) = 8\left(-N^{epk}N_{kfg} + a^{[e}_{[f}\lambda^{p]}_{g]}\right) - \frac{1}{(x-1)}\left(t^{[e}_{g}\delta^{p]}_{f} - t^{[p}_{f}\lambda^{e]}_{g}\right)$$

Proof:
Assuming W to be the Veissman Grey manifold of conharmonic we arrive to the given conclusion: With definition (3.3), this result is obtained:-
1- $\mu(B, A) = R(B, A, A, B) - R(B, A, JA, JB)$
Let W^{2x} Veissman manifold to the $\lambda(B, A, A, B)$and $\lambda(B, A, JA, JB)$ on the space of the adjoin N-structure.

$$(i) - G(B, Y, Y, B) = G_{ijkl}B^iY^jY^kB^l = G_{abcd}B^aA^bA^cB^d + G_{\hat{a}bcd}B^{\hat{a}}Y^bY^cB^d + G_{a\hat{b}cd}B^aA^{\hat{b}}A^cB^d + G_{ab\hat{c}d}B^aA^bA^{\hat{c}}B^d + G_{abc\hat{d}}B^aA^bA^cB^{\hat{d}} + G_{\hat{a}\hat{b}cd}B^{\hat{a}}A^{\hat{b}}A^cB^d + G_{\hat{a}b\hat{c}d}B^{\hat{a}}A^bA^{\hat{c}}B^d + G_{\hat{a}bc\hat{d}}B^{\hat{a}}A^bA^cB^{\hat{d}} + G_{a\hat{b}\hat{c}d}B^aA^{\hat{b}}A^{\hat{c}}B^d + G_{a\hat{b}c\hat{d}}B^aA^{\hat{b}}A^cB^{\hat{d}} + G_{a\hat{b}\hat{c}\hat{d}}B^aA^{\hat{b}}A^{\hat{c}}B^{\hat{d}} + G_{\hat{a}\hat{b}\hat{c}\hat{d}}B^{\hat{a}}A^{\hat{b}}A^{\hat{c}}B^{\hat{d}} + G_{abc\hat{d}}B^aA^bA^{\hat{c}}B^{\hat{d}} + G_{\hat{a}\hat{b}\hat{c}d}B^{\hat{a}}A^{\hat{b}}A^{\hat{c}}B^d + G_{\hat{a}\hat{b}c\hat{d}}B^{\hat{a}}A^{\hat{b}}A^cB^{\hat{d}} + G_{\hat{a}b\hat{c}\hat{d}}B^{\hat{a}}A^bA^{\hat{c}}B^{\hat{d}}$$

Utilizing the tensor equation (2)'s characteristics, we obtain:

$$R(B, A, A, B) = R_{\hat{a}bc\hat{d}}B^{\hat{a}}A^bA^cB^{\hat{d}} + R_{\hat{a}b\hat{c}d}B^{\hat{a}}A^bA^{\hat{c}}B^d + R_{\hat{a}\hat{b}cd}B^{\hat{a}}A^{\hat{b}}A^cB^d + R_{a\hat{b}c\hat{d}}B^aA^{\hat{b}}A^cB^{\hat{d}} + R_{a\hat{b}\hat{c}d}B^aA^{\hat{b}}A^{\hat{c}}B^d + R_{ab\hat{c}\hat{d}}B^aA^bA^{\hat{c}}B^{\hat{d}} \quad (4)$$

(ii) $R(B, Y, JY, JB)$

Within the adjoin N-structure space

$$R(B, A, JA, JB) = R_{ijkl}B^iA^j(JA)^k(JB)^l = R_{abcd}B^aA^bA(JB)^d + R_{\hat{a}bcd}B^{\hat{a}}A^b(JA)^c(JA)^d + R_{a\hat{b}cd}B^aA^{\hat{b}}(JA)^c(JB)^d + R_{ab\hat{c}d}B^aA^b(JA)^{\hat{c}}(JB)^d + R_{abc\hat{d}}B^aA^b(JAA)^c(JB)^{\hat{d}} + R_{\hat{a}\hat{b}cd}B^{\hat{a}}A^{\hat{b}}(JA)^c(JB)^d + R_{\hat{a}b\hat{c}d}B^{\hat{a}}A^b(JA)^{\hat{c}}(JB)^d + R_{\hat{a}bc\hat{d}}B^{\hat{a}}A^b(JA)^c(JB)^{\hat{d}} + R_{a\hat{b}\hat{c}d}B^aA^{\hat{b}}(JA)^{\hat{c}}(JB)^d + R_{a\hat{b}c\hat{d}}B^aA^{\hat{b}}(JA)^c(JB)^{\hat{d}} + R_{a\hat{b}\hat{c}\hat{d}}B^aA^{\hat{b}}(JA)^{\hat{c}}(JB)^{\hat{d}} +$$

$R_{\hat{a}\hat{b}\hat{c}\hat{d}}B^{\hat{a}}A^{\hat{b}}(JA)^{\hat{c}}(JB)^{\hat{d}} + R_{abc\hat{d}}B^{a}A^{b}(JA)^{\hat{c}}(JB)^{\hat{d}} + R_{\hat{a}\hat{b}\hat{c}d}B^{\hat{a}}A^{\hat{b}}(JA)^{\hat{c}}(JB)^{d} +$

$R_{\hat{a}\hat{b}c\hat{d}}B^{\hat{a}}A^{\hat{b}}(JA)^{c}(JB)^{\hat{d}} + R_{\hat{a}bc\hat{d}}B^{\hat{a}}A^{b}(JA)^{\hat{c}}(JB)^{\hat{d}}$ Utilizing the tensor equation (2)'s characteristics, we obtain:

$R(B,A,JA,JB) = R_{\hat{a}\hat{b}cd}B^{\hat{a}}A^{\hat{b}}(JA)^{c}(JB)^{d} + R_{\hat{a}b\hat{c}d}B^{\hat{a}}A^{b}(JA)^{\hat{c}}(JB)^{d} + R_{\hat{a}bc\hat{d}}B^{\hat{a}}A^{b}(JA)^{c}(JB)^{\hat{d}} +$

$R_{a\hat{b}\hat{c}d}B^{a}A^{\hat{b}}(JA)^{\hat{c}}(JB)^{d} + R_{a\hat{b}c\hat{d}}B^{a}A^{\hat{b}}(JA)^{c}(JB)^{\hat{d}} + R_{ab\hat{c}\hat{d}}B^{a}A^{b}(JA)^{\hat{c}}(JB)^{\hat{d}}$ … (5)

Based on characteristics $(JB)^{a} = \sqrt{-1}\, B^{a}$ and $(JB)^{\hat{a}} = -\sqrt{-1}\, B^{\hat{a}}$ we get:

$R(B,A,JA,JB) = -R_{\hat{a}\hat{b}cd}B^{\hat{a}}A^{\hat{b}}A^{c}B^{d} + R_{\hat{a}b\hat{c}d}B^{\hat{a}}A^{b}A^{\hat{c}}B^{d} + R_{\hat{a}bc\hat{d}}B^{\hat{a}}A^{b}A^{c}B^{\hat{d}} +$

$R_{a\hat{b}\hat{c}d}B^{a}A^{\hat{b}}A^{\hat{c}}B^{d} + R_{a\hat{b}c\hat{d}}B^{a}A^{\hat{b}}A^{c}B^{\hat{d}} - T_{ab\hat{c}\hat{d}}B^{a}A^{b}A^{\hat{c}}B^{\hat{d}}$

Equations (4) and (5) allow us to get:

$R(B,A,A,B) - R(B,A,JA,JB) = R_{\hat{a}bc\hat{d}}B^{\hat{a}}A^{b}A^{c}B^{\hat{d}} + R_{\hat{a}b\hat{c}d}B^{\hat{a}}A^{b}A^{\hat{c}}B^{d}$

$+R_{\hat{a}\hat{b}cd}B^{\hat{a}}A^{\hat{b}}A^{c}B^{d} + R_{a\hat{b}c\hat{d}}B^{a}A^{\hat{b}}A^{c}A^{\hat{d}} + R_{a\hat{b}\hat{c}d}B^{a}A^{\hat{b}}A^{\hat{c}}B^{d} +$

$R_{ab\hat{c}\hat{d}}B^{a}A^{b}A^{\hat{c}}B^{\hat{d}} + R_{\hat{a}\hat{b}cd}B^{\hat{a}}A^{\hat{b}}A^{c}B^{d} - R_{\hat{a}b\hat{c}d}B^{\hat{a}}A^{b}A^{\hat{c}}B^{d} - R_{\hat{a}bc\hat{d}}B^{\hat{a}}A^{b}A^{c}B^{\hat{d}} - R_{a\hat{b}\hat{c}d}A^{a}A^{\hat{b}}A^{\hat{c}}B^{d} -$

$R_{a\hat{b}c\hat{d}}B^{a}A^{\hat{b}}A^{c}B^{\hat{d}} + R_{ab\hat{c}\hat{d}}B^{a}A^{b}A^{\hat{c}}B^{\hat{d}} = 4R_{\hat{a}\hat{b}cd}B^{\hat{a}}A^{\hat{b}}A^{c}B^{d}$

The reimbursement, which is the L_4 of theorem (2.4) solution (iii),is as follows:

$= 4\left(2(-N^{abh}N_{hcd} + \alpha^{[a}_{[c}\lambda^{b]}_{d]}\right) - \frac{1}{(n-1)}\left(t^{[a}_{d}\lambda^{b]}_{c} - t^{[b}_{c}\lambda^{a]}_{d}\,)\right)$

$= 8\left(-N^{abh}N_{hcd} + \alpha^{[a}_{[c}\lambda^{b]}_{d]}\right) - \frac{1}{(n-1)}\left(t^{[a}_{d}\lambda^{b]}_{c} - t^{[b}_{c}\lambda^{a]}_{d}\right)$ (6)

2- $\mu(N,S) = R(N,S,S,N) - R(N,S,JS,JN)$

Let W^{2x} Veissman manifold to the $\mu(B,S,S,B)$and $\mu(B,S,JS,JB)$ on the space of the adjoin L-structure

(i)$R(B,S,S,B) = R_{ijkl}B^{i}S^{j}S^{k}B^{l} = R_{abcd}X^{a}S^{b}S^{c}X^{d} + R_{\hat{a}bcd}B^{\hat{a}}S^{b}S^{c}B^{d} + R_{a\hat{b}cd}B^{a}S^{\hat{b}}S^{c}B^{d} +$

$R_{ab\hat{c}d}B^{a}S^{b}S^{\hat{c}}B^{d} + R_{abc\hat{d}}B^{a}S^{b}S^{c}B^{\hat{d}} + RB^{\hat{a}}S^{\hat{b}}S^{c}B^{d} + R_{\hat{a}b\hat{c}d}B^{\hat{a}}S^{b}S^{\hat{c}}B^{d} + R_{\hat{a}bc\hat{d}}B^{\hat{a}}S^{b}S^{c}B^{\hat{d}} +$

$R_{a\hat{b}\hat{c}d}B^{a}S^{\hat{b}}S^{\hat{c}}B^{d} + R_{a\hat{b}c\hat{d}}B^{a}S^{\hat{b}}S^{c}B^{\hat{d}} + R_{a\hat{b}\hat{c}\hat{d}}B^{a}S^{\hat{b}}S^{\hat{c}}B^{\hat{d}} + R_{\hat{a}\hat{b}\hat{c}\hat{d}}B^{\hat{a}}S^{\hat{b}}S^{\hat{c}}B^{\hat{d}} + R_{ab\hat{c}\hat{d}}B^{a}S^{b}S^{\hat{c}}B^{\hat{d}} +$

$R_{\hat{a}\hat{b}\hat{c}d}B^{\hat{a}}S^{\hat{b}}S^{\hat{c}}B^{d} + R_{\hat{a}\hat{b}c\hat{d}}B^{\hat{a}}S^{\hat{b}}S^{c}B^{\hat{d}} + R_{\hat{a}b\hat{c}\hat{d}}B^{\hat{a}}S^{b}S^{\hat{c}}B^{\hat{d}}$

Utilizing the tensor equation (2)'s characteristics, we obtain:

$R(B,S,S,B) = R_{\hat{a}bc\hat{d}}B^{\hat{a}}S^{b}S^{c}B^{\hat{d}} + R_{\hat{a}b\hat{c}d}B^{\hat{a}}S^{b}S^{\hat{c}}B^{d} + R_{\hat{a}\hat{b}cd}B^{\hat{a}}S^{\hat{b}}S^{c}B^{d} + R_{a\hat{b}c\hat{d}}B^{a}S^{\hat{b}}S^{c}B^{\hat{d}} +$

$R_{a\hat{b}\hat{c}d}B^{a}S^{\hat{b}}S^{\hat{c}}B^{d} + R_{ab\hat{c}\hat{d}}B^{a}S^{b}S^{\hat{c}}B^{\hat{d}}$ (7)

(i) $T(B,S,JS,JB)$

Within the adjoin L-structure space

$R(B,S,JS,JB) = R_{ijkl}B^iS^j(JS)^k(JB)^l = R_{abcd}B^aS^bS(JB)^d + R_{\hat{a}bcd}B^{\hat{a}}S^b(JS)^c(JB)^d +$

$R_{a\hat{b}cd}B^aS^{\hat{b}}(JS)^c(JB)^d + R_{ab\hat{c}d}B^aS^b(JS)^{\hat{c}}(JB)^d + R_{abc\hat{d}}B^aS^b(JS)^c(JB)^{\hat{d}} +$

$R_{\hat{a}\hat{b}cd}B^{\hat{a}}S^{\hat{b}}(JS)^c(JB)^d + R_{\hat{a}b\hat{c}d}B^{\hat{a}}S^b(JS)^{\hat{c}}(JB)^d + R_{\hat{a}bc\hat{d}}B^{\hat{a}}AS^b(JS)^c(JB)^{\hat{d}} +$

$R_{a\hat{b}\hat{c}d}B^aS^{\hat{b}}(JS)^{\hat{c}}(JB)^d + R_{a\hat{b}c\hat{d}}B^aS^{\hat{b}}(JS)^c(JB)^{\hat{d}} + R_{a\hat{b}\hat{c}\hat{d}}B^aS(JS)^{\hat{c}}(JS)^{\hat{d}} +$

$R_{\hat{a}\hat{b}\hat{c}\hat{d}}B^{\hat{a}}S^{\hat{b}}(JS)^{\hat{c}}(JB)^{\hat{d}} + R_{ab\hat{c}\hat{d}}B^aS^b(JS)^{\hat{c}}(JB)^{\hat{d}} + R_{\hat{a}\hat{b}\hat{c}d}B^{\hat{a}}S^{\hat{b}}(JS)^{\hat{c}}(JB)^d +$

$R_{\hat{a}\hat{b}c\hat{d}}B^{\hat{a}}S^{\hat{b}}(JS)^c(JB)^{\hat{d}} + R_{\hat{a}b\hat{c}\hat{d}}B^{\hat{a}}S^b(JS)^{\hat{c}}(JB)^{\hat{d}}$

Utilizing the tensor equation (2)'s characteristics, we obtain:

$R(B,S,JS,JB) = R_{\hat{a}\hat{b}cd}B^{\hat{a}}S^{\hat{b}}(JS)^c(JB)^d + R_{\hat{a}b\hat{c}d}B^{\hat{a}}S^b(JS)^{\hat{c}}(JB)^d + R_{\hat{a}bc\hat{d}}B^{\hat{a}}S^b(JS)^c(JB)^{\hat{d}} +$

$R_{a\hat{b}\hat{c}d}B^aS^{\hat{b}}(JS)^{\hat{c}}(JB)^d + R_{a\hat{b}c\hat{d}}B^aS^{\hat{b}}(JS)^c(JB)^{\hat{d}} + R_{ab\hat{c}\hat{d}}B^aS^b(JS)^{\hat{c}}(JB)^{\hat{d}}$ ... (8)

Based on characteristics $(JB)^a = \sqrt{-1}\,B^a$ and $(JB)^{\hat{a}} = -\sqrt{-1}\,B^{\hat{a}}$ we get:

$$R(B,S,JS,JB) = -R_{\hat{a}\hat{b}cd}B^{\hat{a}}S^{\hat{b}}S^cB^d + R_{\hat{a}b\hat{c}d}B^{\hat{a}}S^bS^{\hat{c}}B^d + R_{\hat{a}bc\hat{d}}B^{\hat{a}}S^bS^cB^{\hat{d}} + R_{a\hat{b}\hat{c}d}B^aS^{\hat{b}}S^{\hat{c}}B^d + R_{a\hat{b}c\hat{d}}B^aS^{\hat{b}}S^cB^{\hat{d}} - R_{ab\hat{c}\hat{d}}B^aS^bS^{\hat{c}}B^{\hat{d}}$$

Equations (7) and (8) allow us to get:

$R(B,S,S,B) - R(B,S,JS,JB) = R_{\hat{a}bc\hat{d}}B^{\hat{a}}S^bS^cB^{\hat{d}} + R_{\hat{a}b\hat{c}d}B^{\hat{a}}S^bS^{\hat{c}}B^d$

$+R_{\hat{a}\hat{b}cd}B^{\hat{a}}S^{\hat{b}}S^cB^d + R_{a\hat{b}c\hat{d}}B^aS^{\hat{b}}S^cB^{\hat{d}} + R_{a\hat{b}\hat{c}d}B^aS^{\hat{b}}S^{\hat{c}}B^d +$

$R_{ab\hat{c}\hat{d}}B^aS^bS^{\hat{c}}B^{\hat{d}} + R_{\hat{a}\hat{b}cd}B^{\hat{a}}S^{\hat{b}}S^cB^d - R_{\hat{a}b\hat{c}d}B^{\hat{a}}S^bS^{\hat{c}}B^d - R_{\hat{a}bc\hat{d}}B^{\hat{a}}S^bS^cB^{\hat{d}} - R_{a\hat{b}\hat{c}d}B^aS^{\hat{b}}S^{\hat{c}}B^d -$

$R_{a\hat{b}c\hat{d}}B^aS^{\hat{b}}S^cB^{\hat{d}} + R_{ab\hat{c}\hat{d}}B^aS^bS^{\hat{c}}B^{\hat{d}} = 4R_{\hat{a}\hat{b}cd}B^{\hat{a}}S^{\hat{b}}S^cB^d$

The reimbursement, which is the L_4 of theorem (2.4) solution (iii),is as follows:

$= 4\left(2(-L^{abh}L_{hcd} + \alpha^{[a}_{[c}\lambda^{b]}_{d]}\right) - \frac{1}{(n-1)}\left(t^{[a}_{d}\lambda^{b]}_{c} - t^{[b}_{c}\lambda^{a]}_{d}\,)\right)$

$= 8\left(-L^{abh}L_{hcd} + \alpha^{[a}_{[c}\lambda^{b]}_{d]}\right) - \frac{1}{(n-1)}\left(t^{[a}_{d}\lambda^{b]}_{c} - t^{[b}_{c}\lambda^{a]}_{d}\right)$ (9)

Equation (6) and (9) provide the following:

$$\mu(N,A) = \mu(NB,S) = 8\left(-N^{abh}N_{hcd} + \alpha^{[a}_{[c}\lambda^{b]}_{d]}\right) - \frac{1}{(n-1)}\left(t^{[a}_{d}\lambda^{b]}_{c} - t^{[b}_{c}\lambda^{a]}_{d}\right)$$

Thus by definition (3.3) we get:

W is contant type if and only if

$$\mu(N,A) = \mu(N,S) = 8\left(-N^{abh}N_{hcd} + \alpha^{[a}_{[c}\lambda^{b]}_{d]}\right) - \frac{1}{(n-1)}\left(t^{[a}_{d}\lambda^{b]}_{c} - t^{[b}_{c}\lambda^{a]}_{d}\right)$$

Lemma [22]:

An HA manifold W is a contant if, and only ,if W is Koehler manifold.

Corollary

If W is GV manifold of tensor , then W is not Koehler manifold.
Prove
Let that W is GV manifold of tensor
By using Theorem (*) we get: W is contant
$\mu(N,A) = \mu(N,S) = 8\left(-N^{abh}N_{hcd} + \alpha_{[c}^{[a}\lambda_{d]}^{b]}\right) - \frac{1}{(n-1)}\left(t_d^{[a}\lambda_c^{b]} - t_c^{[b}\lambda_d^{a]}\right)$
By using Lemma it follows
W is not Koehler manifold .

Result and Discussion

Prove that W is the manifold of contant if and only if it is the Veissman Grey manifold of the conharmonic tensor. And to proved that An HA manifold W is a contant if, and only ,if W is Koehler manifold. Also, Show this If W is GV manifold of tensor , then W is not Koehler manifold.

In this the paper Some generalized Riemannian curvatures are discussed, including the harmonic congruent curvature and some Viessman tensors. The relationship between locally conformal Keller and Viesseman-manifolds and complexes is discussed, and some harmonic relations between them are found. Some geometric properties of semi-Hermitical classes of Riemannian curvatures are discussed, and a flat harmonic curvature is obtained. The necessary and sufficient conditions for Viessman-manifolds to become locally-conformal manifolds are also obtained.

Conclusions

The harmonic curvature of the Veissman region was studied, and the equivalence classes and their relationships with the structure of the hierarchical manifold were found in the experiment, which is symbolized by the symbol $W_1 \oplus W_4$. The standard curvature descent was also calculated for each of unit, and the relationship between the algebraic curvature and the classical curvature was obtained, which represents the curvature of the Remain who represents some models that allow the study of the standard structures of each class of the Hermitian manifold.

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