

ON $(f, g, u, v, w, \lambda, \mu, \nu)$ -STRUCTURES SATISFYING $\lambda^2 + \mu^2 + \nu^2 = 1$

Dedicated to professor S. Maruyama on his sixtieth birthday

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§ 0. Introduction.

It is now well known that a submanifold of codimension 3 of an almost Hermitian manifold admits an $(f, g, u, v, w, \lambda, \mu, \nu)$ -structure induced from the almost Hermitian structure of the ambient manifold, a submanifold of codimension 2 of an almost contact metric manifold admits a same kind of structure induced from the almost contact metric structure of the ambient manifold and a hypersurface of a manifold with (f, g, u, v, λ) -structure admits a same kind of structure induced from that of the ambient manifold.

In the present paper we show that under a certain condition a submanifold of codimension 3 of an almost Hermitian manifold admits an almost contact metric structure and study the properties of this almost contact metric structure.

In §1, we define the $(f, g, u, v, w, \lambda, \mu, \nu)$ -structure and in §2, we show that this kind of structure gives an almost contact metric structure when $\lambda^2 + \mu^2 + \nu^2 = 1$, and find condition under which the almost contact metric structure is normal, contact or Sasakian.

In §3, we study the case in which the vector field p appeared in §2, vanishes identically and show that in this case the submanifold admits also an almost contact metric structure.

§4 is devoted to the study of submanifolds of codimension 3 of an almost Hermitian or Kaehlerian manifold admitting an almost contact metric structure, and §5 to the study of those of an even-dimensional Euclidean space.

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§ 1. $(f, g, u, v, w, \lambda, \mu, \nu)$ -structures.

Let M^{2n+4} be a $(2n+4)$ -dimensional almost Hermitian manifold covered by a system of coordinate neighborhoods $\{U; \xi^A\}$ and denote by G_{CB} components of

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