Sandon: On translated points of contactomorphisms

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2:09 PM

1. Contact Manifolds: (M^{2n+1}, ξ) where

$\xi = \ker(\alpha)$, $\alpha \in \Omega^1(M)$, $\alpha \wedge (d\alpha)^n$ is a vol. form

alternatively, $d\alpha|_\xi$ is non-deg.

<u>Example</u> $\mathbb{R}^{2n+1}_{x_i, y_i}$, $\alpha = dz - \sum y_i dx_i$

Symplectic $\longrightarrow$ contact:

if $(W, \omega = d\lambda)$ is symplectic, then

$(M' = W \times S^1, dz + \lambda)$ is contact.

A contactomorphism is $\phi: M \to M$ is a diffeomorphism that preserves ξ, i.e. s.t.

$$\phi^*\alpha = e^g \alpha \qquad g \in \Omega^0(M)$$

The choice of α determines the REEB flow R_α, defined by the conditions

$$d\alpha(R_\alpha, \cdot) = 0 \qquad \alpha(R_\alpha) = 1$$

it is a contact isotopy 2:32