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On coisotropic imbeddings of presymplectic manifolds.

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A manifold M is said to be presymplectic if it carries a closed 2-form ω of constant rank. A coisotropic embedding of (M, ω) into a symplectic manifold (P, Ω) is a closed embedding $j: M \rightarrow P$ such that (i) $j^*\Omega = \omega$; (ii) $TM^\perp \subseteq Tj(TM)$. If $\omega = 0$ and we omitted (ii) we would have an isotropic embedding. The classification of isotropic embeddings was carried out by A. Weinstein [see, for example, *Lectures on symplectic manifolds*, Amer. Math. Soc., Providence, R.I., 1977; MR 57#4244]. By using similar techniques the author is able to show that, if (M, ω) is presymplectic and E is the characteristic distribution, then E^* carries a symplectic structure in a neighbourhood of the zero section, the zero section is a coisotropic embedding of M , and every coisotropic embedding is equivalent to this in some neighbourhood of the zero section.

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