1017-53-94 **Octav Cornea*** (`cornea@dms.umontreal.ca`), Departement de Mathematiques, Universite de Montreal, CP 6128 Succ. Centre-Ville, Montreal, Quebec H3C 3J7, Canada. *Relative Gromov radius: some results and conjectures.*

Given a Lagrangian submanifold L^n in a symplectic manifold (M^{2n}, ω) define its relative Gromov radius $GR(L)$ as the supremum of the real numbers r so that there exists a standard symplectic ball of radius r, $B(r)$, and a symplectic embedding $e : B(r) \to M$ with the property that $e^{-1}(L) = R^n \cap B(r)$. In this talk I will present a number of results and conjectures concerning this notion and, in particular, the cases when, under the additional assumption that L is displaceable, the following inequality is known to hold: $\pi(GR(L))^2/2 \le E(L)$ where $E(L)$ is the disjunction energy (the monotone case and certain relative spin, orientable Lagrangians). I will discuss the methods of proof which are based on J-holomorphic techniques contained in joint work with François Lalonde (the cluster "machine") and with Jean-François Barraud as well as the general relevance of this notion and further open questions. (Received February 15, 2006)