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*Construction of Quasi-Periodic Response Solutions for Forced Systems with Strong Damping*

I will present a method for constructing quasi-periodic response solutions (i.e. quasi-periodic solutions with the same frequency as the forcing) for over-damped systems. Our method applies to non-linear wave equations subject to very strong damping and quasi-periodic external forcing and to the varactor equation in electronic engineering. The strong damping leads to very few small divisors which allows to prove the existence by using a contraction mapping argument requiring very weak non-resonance conditions on the frequency. This is joint work with A.Celletti, L. Corsi, and R. de la Llave.