On the absence of the Efimov-effect for $N \geq 4$ particles

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According to the well-known Efimov-effect the resonance at the lower threshold of a two-body system turns into infinitely many bound states when adding a third particle. This comes from the behaviour of the resonance function for $|x| \to \infty$.

Based on the talk of A. Bitter we prove the absence of the Efimov-effect for $N \geq 4$ particles in dimension $d = 3$ and for $N \geq 4$ fermions in dimension $d = 2$. Precisely, we show that the discrete spectrum of the corresponding $N-$body Schrödinger operator H is finite, provided every subsystem with $n \leq N - 2$ particles has no negative spectrum and no virtual level.