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| Sommario/riassunto      | Since long over the decades there has been a large transversal community of mathematicians grappling with the sophisticated challenges of the rigorous modelling and the spectral and scattering  |

analysis of quantum systems of particles subject to an interaction so much localised to be considered with zero range. Such a community is experiencing fruitful and inspiring exchanges with experimental and theoretical physicists. This volume reflects such spirit, with a diverse range of original contributions by experts, presenting an up-to-date collection of most relevant results and challenging open problems. It has been conceived with the deliberate two-fold purpose of serving as an updated reference for recent results, mathematical tools, and the vast related literature on the one hand, and as a bridge towards several key open problems that will surely form the forthcoming research agenda in this field.