Search for New Physics in Final States with Jets at CMS

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Abstract: Thanks to the progresses in jet phenomenology and the accuracy reached by detector descriptions, particle physics entered the era of precise measurements in final states with jets at the LHC, improving our new-physics discovery capability. I will describe a few examples of searches for new physics with jet signatures, discussing how the impact of novel techniques in data taking (so called "scouting"), data analysis (e.g., jet substructure) and new kinematic variables (e.g., the "razor" variables for SUSY) pushed the physics reach of CMS beyond expectations. Based on the results of the LHC Run I, I will describe interesting scenarios for Run II and for future hadron colliders.