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## Status of the design and simulations for the FOFB of PETRA IV

PETRA III is one of the most important facilities at DESY. The PETRA IV project aims to replace PETRA III with an ultra-low emittance ring (20 pm), add a new experimental hall in two additional octants and replace DESY II with a new low emittance booster. In this way, the emittance will be reduced from 1300 pm to 20 pm. A brief overview of the activities on the way to a stable beam orbit will be given. The following points will be introduced during the presentation: The stability task force, the system modelling and hardware design, the perturbation and noise models used and the SISO simulation as a first step towards a full ring simulation. Finally, we will conclude the presentation.

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