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Software ecosystem for simulation and design of I/O GW Interferometer cavities

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In this talk we present a comprehensive software overview that is necessary for simulation, design and fabrication of high tolerance cavities in 3G GW Interferometers. An in-depth review of software is given along with the prescribed workflows and production/metrology loops. We discuss the complementary of different software solutions and aplications of FFT, modal and ABCD(EF) matrix approaches and position the relevant software products in the overall ecosystem for simulations and design of aforementioned cavities.

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