Density Filtering

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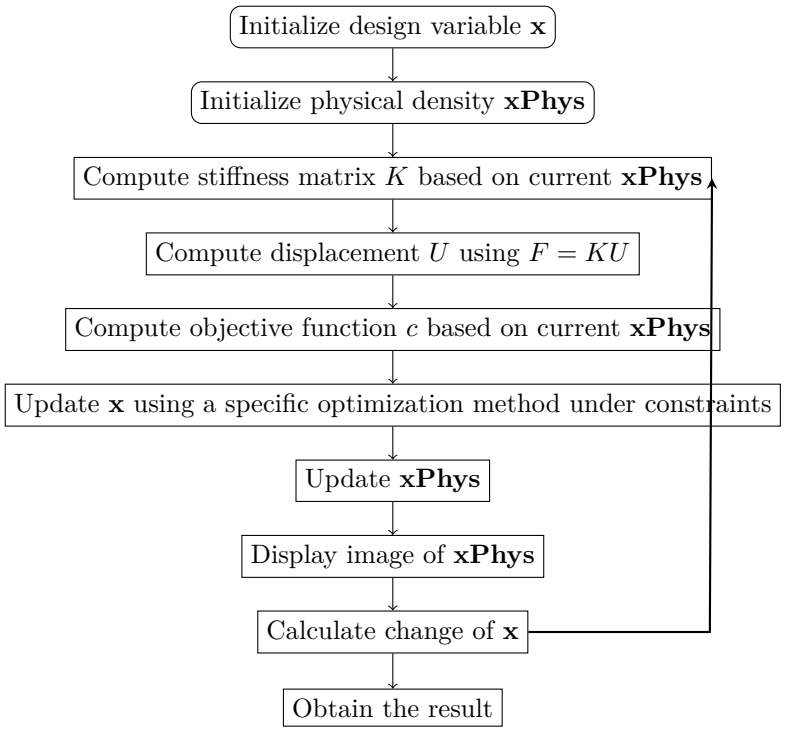

Figure 1: Flowchart of the optimization process with density filtering

- The design variable is still **x**, which means that when calculating sensitivity, we are computing the derivative of the objective function with respect to **x**. The variables directly updated using optimization algorithms (such as OC or MMA) remain as **x**.
- We have essentially inserted a layer of **xPhys** into the entire flowchart. It is a convolution of **x**, and **xPhys** replaces the original **x** in the calculations of K, the objective function, the volume constraint, and the visualization in the images.

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