electromagnetic representation algorithmoptima failure construct disturbances benchmark obtained crosstalk method approach adapted buckling variable combination investigate quantities select elecmagneticcompallow sensiti coefficient basedobjective show low actuator statistical reliable present testinate reduce indicates respect of assess uncertainties indicates respect validate reduce indicates respect validate reduce validate reduce validate reduce validate reduce validate reduce validate respect validate reduce validate reduce validate respect validate reduce validate reduc parameter collocation backscattering provide correlated barrier sparse impact mean computation used