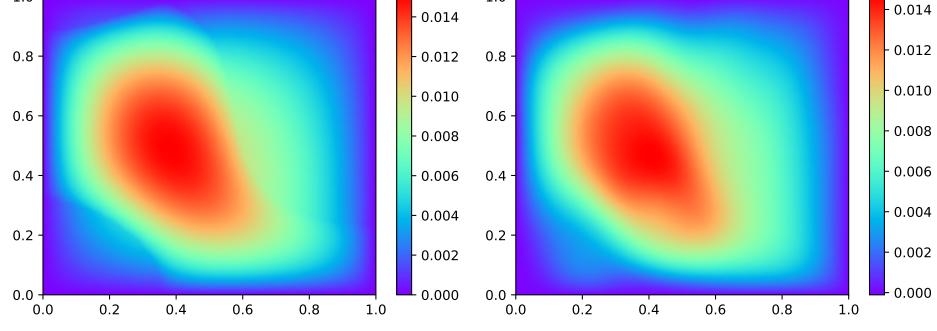case index = 952, rel err = 0.0478