



## **Comparing electron density between IRI-2007 and CHAMP, GRACE observation during recent solar minimum**

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We compare electron density predictions of the International Reference Ionosphere (IRI-2007) model with in-situ measurements of the satellites CHAMP and GRACE for the years 2000-2009. Orbital-averages of the electron density are considered. During the first half of the period (2000-2004) measurements and collocated model predictions track each other reasonably well at both sampling heights. From 2005 onward the overestimation of the electron density by the model is progressively increasing. Annual averages show that IRI-2007 values are too high by 50% for 2008 and by more than 60% by 2009. An inspection of the latitudinal and local time distributions reveals that the too high predictions primarily occur at low latitudes during daytime hours. From comparison with observations it becomes obvious that IRI-2007 is strongly overestimating the equatorial ion fountain effect during the last deep solar minimum.