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Supporting Information for

**Deducing non-migrating diurnal tides in the middle thermosphere with GOLD  
observations of the Earth's far ultraviolet dayglow from geostationary orbit**

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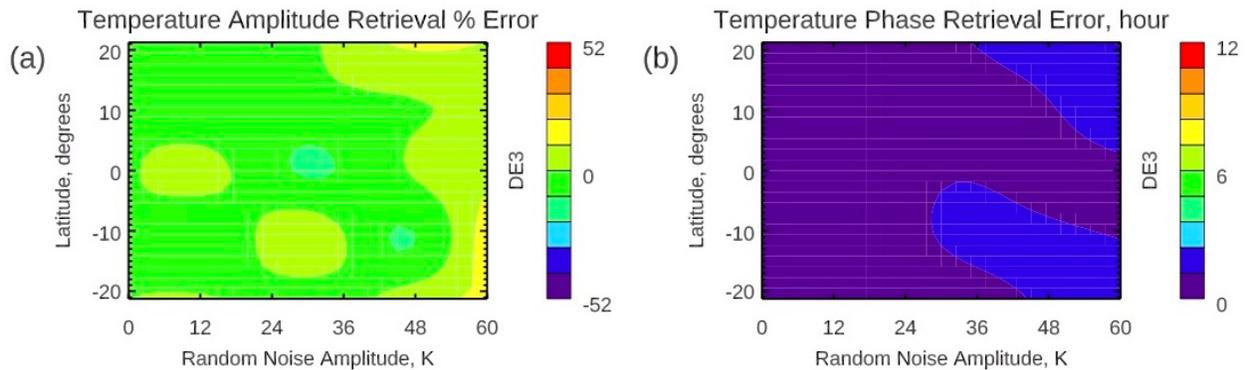
## Contents of this file

Figure S1

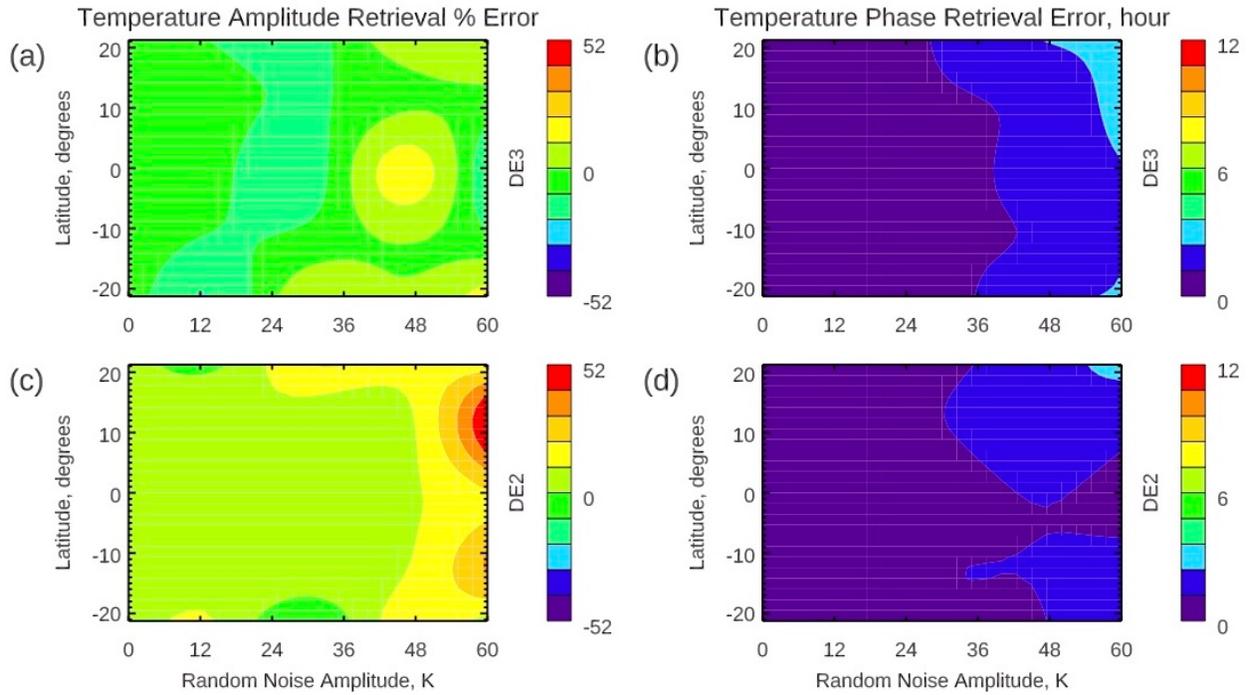
Figure S2

## Introduction

This document presents figures which summarize a noise sensitivity analysis of our approach as applied to a dataset simulated by TIE-GCM, but where residual contributions from tides assumed to be absent are removed.



**Figure S1.** Retrieval errors as a function of latitude and random noise amplitude for DE3 temperature tidal amplitude (a) and phase (b) when applying our approach to a simulated GOLD dataset for October and solar minimum conditions where only DE3 and DE2 contribute to the non-migrating diurnal variations. Results for the retrieval of tidal parameters in column  $O/N_2$  are similar and thus not shown. Results for DE2 are not shown because it has a negligible amplitude in October TIE-GCM runs.



**Figure S2.** Same as Figure S1, but for January and the errors in the retrieved DE2 tidal parameters are also shown.