Three versions of the model are given, each driven by a different forcing series representing Greenland Ice Sheet extent through time and designated in the model file name (*forward\_model\_XXXXX.m*). These input driving series are the deep sea δ18O record from Lisiecki and Raymo (2005) (*LR04.mat*), the Mediterranean Sea sea-level record from Rohling et al. (2014) (*med.mat*), and simulated ice sheet extent based on the modeling of deBoer et al. (2014) (*deboer.mat*), all given at 2 kyr resolution over the past 5.3 Myr. Initialized bedrock profiles with steady state 10Be and 26Al concentrations at 1 cm depth increments below the surface assuming a sea-level high-latitude production rate and 20 m/Myr erosion rate are given in *steadystate\_10Be\_20mMyr.mat* and *steadystate\_26Al\_20mMyr.mat*. Sea-level high-latitude 10Be and 26Al production rates in 1 cm depth increments below the surface are given in *P10.mat* and *P26.mat*. The file *er\_half\_Ma.mat* determines which set of bedrock profiles are beneath erosive warm based ice (1) or nonerosive cold based ice (0) at each time step. See Methods for an explanation of the model setup.