RESEARCH ARTICLES

SPACE PHYSICS

429  ZhiPeng Ren, WeiXing Wan, JianGang Xiong, and Xing Li
Influence of annual atmospheric tide asymmetry on annual anomalies of the ionospheric mean state
(doi: 10.26464/epp2020041)

436  Xing Li, WeiXing Wan, JinBin Cao, and ZhiPeng Ren
Wavenumber-4 spectral component extracted from TIMED/SABER observations (doi: 10.26464/epp2020040)

449  Xing Li, WeiXing Wan, JinBin Cao, and ZhiPeng Ren
The source of tropospheric tides (doi: 10.26464/epp2020049)

ATMOSPHERIC PHYSICS

461  XiangHui Xue, DongSong Sun, HaiYun Xia, and XianKang Dou
Inertial gravity waves observed by a Doppler wind LiDAR and their possible sources
(doi: 10.26464/epp2020039)

472  ShengYang Gu, Xin Hou, JiaHui Qi, KeMin TengChen, and XianKang Dou
Reponses of middle atmospheric circulation to the 2009 major sudden stratospheric warming
(doi: 10.26464/epp2020046)

479  Jie Gu, YeHui Zhang, Na Yang, and Rui Wang
Diurnal variability of the planetary boundary layer height estimated from radiosonde data
(doi: 10.26464/epp2020042)

493  Zheng Ma, Yun Gong, ShaoDong Zhang, JiaHui Luo, QiHou Zhou, ChunMing Huang, and KaiMing Huang
Comparison of stratospheric evolution during the major sudden stratospheric warming events in 2018 and 2019 (doi: 10.26464/epp2020044)

504  Xiao Liu, JiYao Xu, and Jia Yue
Global static stability and its relation to gravity waves in the middle atmosphere
(doi: 10.26464/epp2020047)

SOLID EARTH

513  Ting Lei, HuaJian Yao, and Chao Zhang
Effect of lateral heterogeneity on 2-D Rayleigh wave ZH ratio sensitivity kernels based on the adjoint method: Synthetic and inversion examples (doi: 10.26464/epp2020050)

523  JingXing Fang, Feng Qian, and HaiMing Zhang
Analysis of the role of branching angle in the dynamic rupture process on a 3-D branching fault system
(doi: 10.26464/epp2020043)

PERSPECTIVE

SOLID EARTH

532  Qing-Yu Wang, and HuaJian Yao
Monitoring of velocity changes based on seismic ambient noise: A brief review and perspective
(doi: 10.26464/epp2020048)

COVER

In Ma Z and Gong Y et al. (10.26464/epp2020044), stratospheric evolutions of daily mean geopotential heights are presented during the 15 days of the postwarming periods in the 2018 and 2019 major SSWs. Transitions of the polar vortices, associated with the propagation of anticyclones, are all observed over the Atlantic region, which illustrates that the types of 2018 and 2019 SSWs are split-displacement and displacement-split, respectively. These results will stimulate the interest in transition-type SSWs. See pages 493–503.