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Gravity changes induced by the polar motion

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Gravity changes at Chandler period were analyzed using superconducting gravimeter (SG) data which were observed at Syowa station (Antarctica), Esashi, and Canberra. The observed gravity changes were compared with predicted gravity changes (PG) inferred from Earth orientation parameter in order to estimate amplitude factor and phase lag to the Chandler wobble of the Earth. Although there remains a problem of separation between the annual and Chandler components, present analysis results suggest the phase lag of the gravity response to the polar motion.