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**TANAKA et al.**(10) **Pub. No.: US 2022/0352837 A1**(43) **Pub. Date: Nov. 3, 2022**(54) **ROTARY MACHINE CONTROL DEVICE**(52) **U.S. Cl.**CPC ..... **H02P 23/14** (2013.01); **H02P 25/022**  
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**Tetsuya MATSUYAMA**, Nara (JP)(21) Appl. No.: **17/724,308**(22) Filed: **Apr. 19, 2022**(30) **Foreign Application Priority Data**Apr. 28, 2021 (JP) ..... 2021-076595  
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**H02P 25/022** (2006.01)(57) **ABSTRACT**

A rotary machine control device includes: a flux estimator that estimates a rotary machine flux; a command amplitude specifier that generates a command amplitude that is an amplitude of a command flux, by executing feedback control using a product of an estimated flux or an estimated magnet flux and a detected current; a command flux specifier that generates the command flux using the command amplitude; and a switcher that controls switching from a current synchronous operation to a flux control operation. When the switcher controls switching to the flux control operation, the flux estimator gives, to the feedback control, an amplitude of the estimated flux estimated before switching to the flux control operation, as an initial value of the command amplitude immediately after switching to the flux control operation.

