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**Kuang-Ru Wu\*** ([wu739@purdue.edu](mailto:wu739@purdue.edu)), Department of Mathematics, Purdue University, 150N University Street, West Lafayette, IN 47906. *A Dirichlet problem for flat hermitian metrics.*

Let  $\bar{\Omega}$  be a compact Riemann surface with boundary, and  $V$  a Hilbert space . We prove the existence of flat hermitian metrics on  $\bar{\Omega} \times V$  with given boundary values. The result generalizes Lempert's theorem that had  $\Omega$  the unit disc. It also generalizes results of Donaldson and Coifman-Semmes to the case of infinite rank bundles but only on Riemann surfaces. (Received September 01, 2018)