



US 20220369514A1

(19) **United States**(12) **Patent Application Publication**
Heydari(10) **Pub. No.: US 2022/0369514 A1**(43) **Pub. Date: Nov. 17, 2022**(54) **INTELLIGENT FLOW CONTROLLERS
WITH HOT-SWAPPABLE COLD PLATES IN
DATACENTER COOLING SYSTEMS**(52) **U.S. Cl.**
CPC **H05K 7/20381** (2013.01); **H05K 7/20827**
(2013.01); **H05K 7/20509** (2013.01)(71) Applicant: **Nvidia Corporation**, Santa Clara, CA
(US)(57) **ABSTRACT**(72) Inventor: **Ali Heydari**, Albany, CA (US)(21) Appl. No.: **17/318,837**(22) Filed: **May 12, 2021****Publication Classification**(51) **Int. Cl.**
H05K 7/20 (2006.01)

Systems and methods for cooling a datacenter are disclosed. In at least one embodiment, flow controllers are associated with cold plates and have direct and bypass ports, so that when direct ports are disabled for removal of a first cold plate, bypass ports are enabled to bypass a first cold plate and to enable a second cold plate to be continuously cooled by a datacenter cooling system.

