AKADEMIA GÓRNICZO-HUTNICZA
IM. STANISŁAWA STASZICA W KRAKOWIE

Accelerating aggregation and complex SQL queries on a GPU

Marcin Pietroń
Dominik Żurek
Paweł Russek
Maciej Wielgosz
Ernest Jamro
Kazimierz Wiatr

Motivation

- SQL operations have strong internal parrallelism
- Aggregation functions consist of reduced operation
- Data transfer (CPU <-> GPU) and global memory size on GPU still rises

Architecture of SQL aggregation function

SELECT SUM(col1) FROM
Table WHERE col1>const