

プログラム名：量子人工脳を量子ネットワークでつなぐ高度知識社会基盤の実現

PM名：山本 喜久

プロジェクト名：量子シミュレーション

委 託 研 究 開 発

実施状況報告書（成果）

平成 27 年度

研究開発課題名：

Development of semiconductor-based quantum simulators

研究開発機関名：

ウルツブルグ大学

研究開発責任者

Sven Hoefling

## 1. Activities, Accomplishment and Findings

In the first year of the project, we have focused our efforts on realizing high Q microcavities facilitating polariton condensation under non-resonant, normal incidence pumping conditions. This is the major prerequisite for all follow up experiments, and therefore it has to be established in the initial phase of the project. Furthermore, the success or failure of the project critically depends on the accomplishment of this task.

We systematically tested various samples with GaAs quantum wells of different thickness, and integrated them into AlGaAs/AlAs microcavities. In that way, we have grown improved samples for the challenging experiments undertaken by the project partners at RIKEN, and sample pieces have been delivered to the partner for experiments.

## 2. Outreach, Events and Other Activities

None.