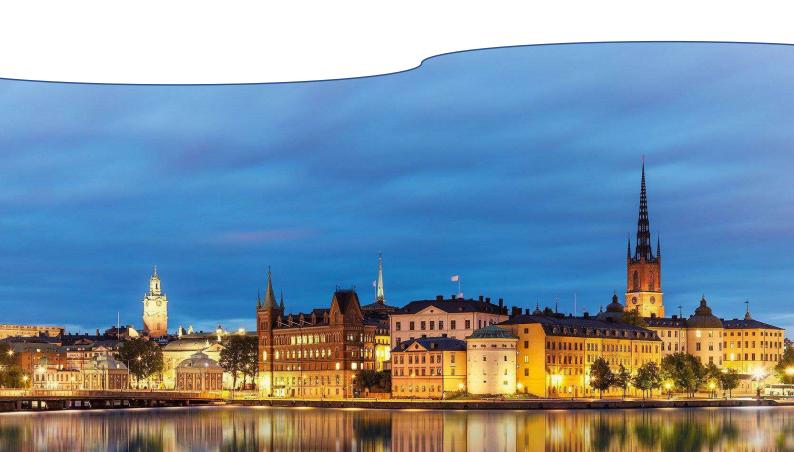
CSW 2021

First Virtual Conference





Workbook





WeA2.2 Frequency combs in QCLs and ICLs

8:30

Benedikt Schwarz (TU Vienna, Austria)



WeA2.3 Continuous-wave Surface-emitting Ring Interband Cascade Lasers 9:00

Borislav Hinkov, Hedwig Knötig, Johannes Waclawek, Bernhard Lendl, Gottfried Strasser (TU Wien, Austria); Robert Weih, Johannes Koeth (Nanoplus, Germany); Sven Höfling (Uni Würzburg, Germany)

We present the first realization of surface-emitting ring interband cascade lasers (ICLs) in continuous wave (CW) mode. The devices are single mode emitting through the implementation of a second order distributed feedback (DFB) grating, while the light is outcoupled through the GaSb substrate. The devices are mounted epitaxial-side down on copper heatsinks for thermal reasons and emit up to 6.5 mW of optical output power into a single spectral mode (side-mode suppression-ratio of 20 dB) at 20 $^{\circ}$ C. Their maximum operation temperature is 38 $^{\circ}$ C, with still about 1 mW of optical power.