ETH zürich

Robust Flooding using Back-to-Back Synchronous Transmissions with Channel-Hopping

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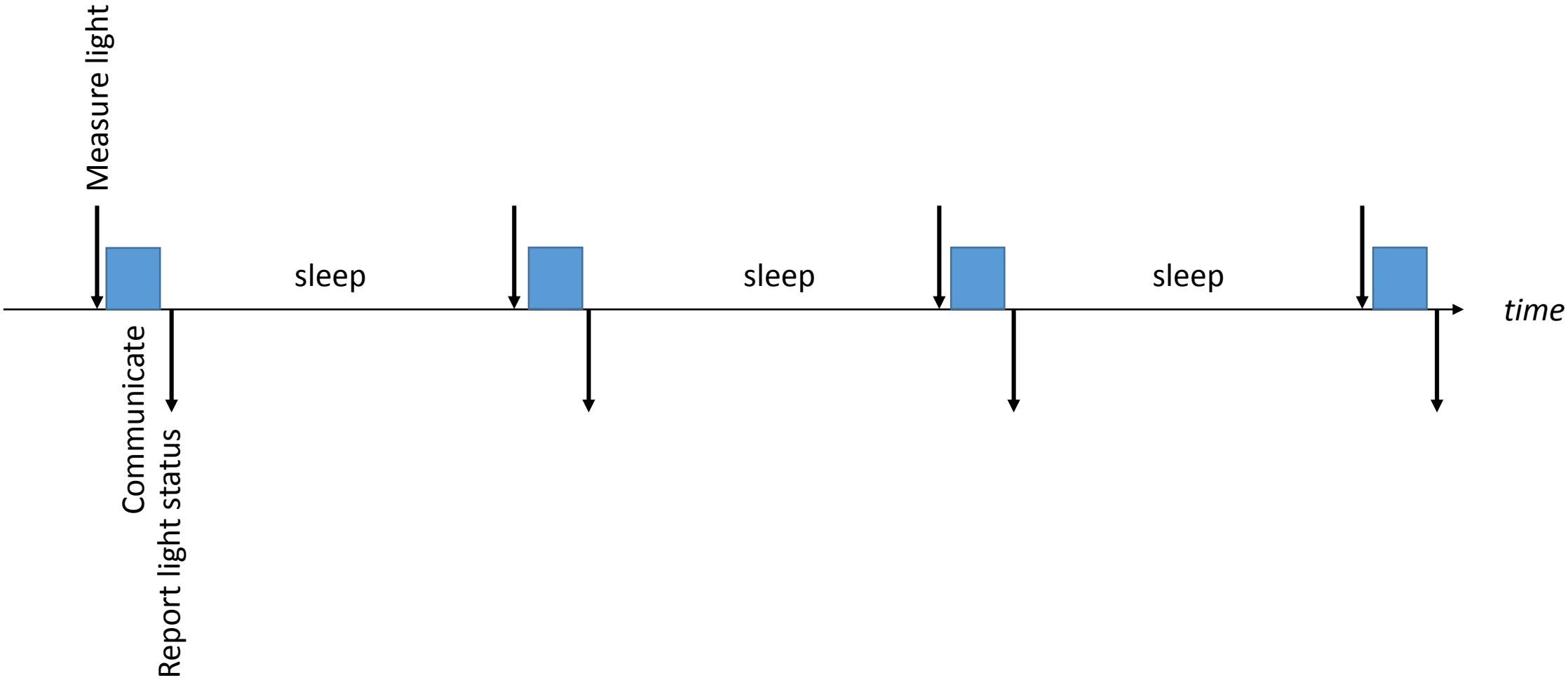
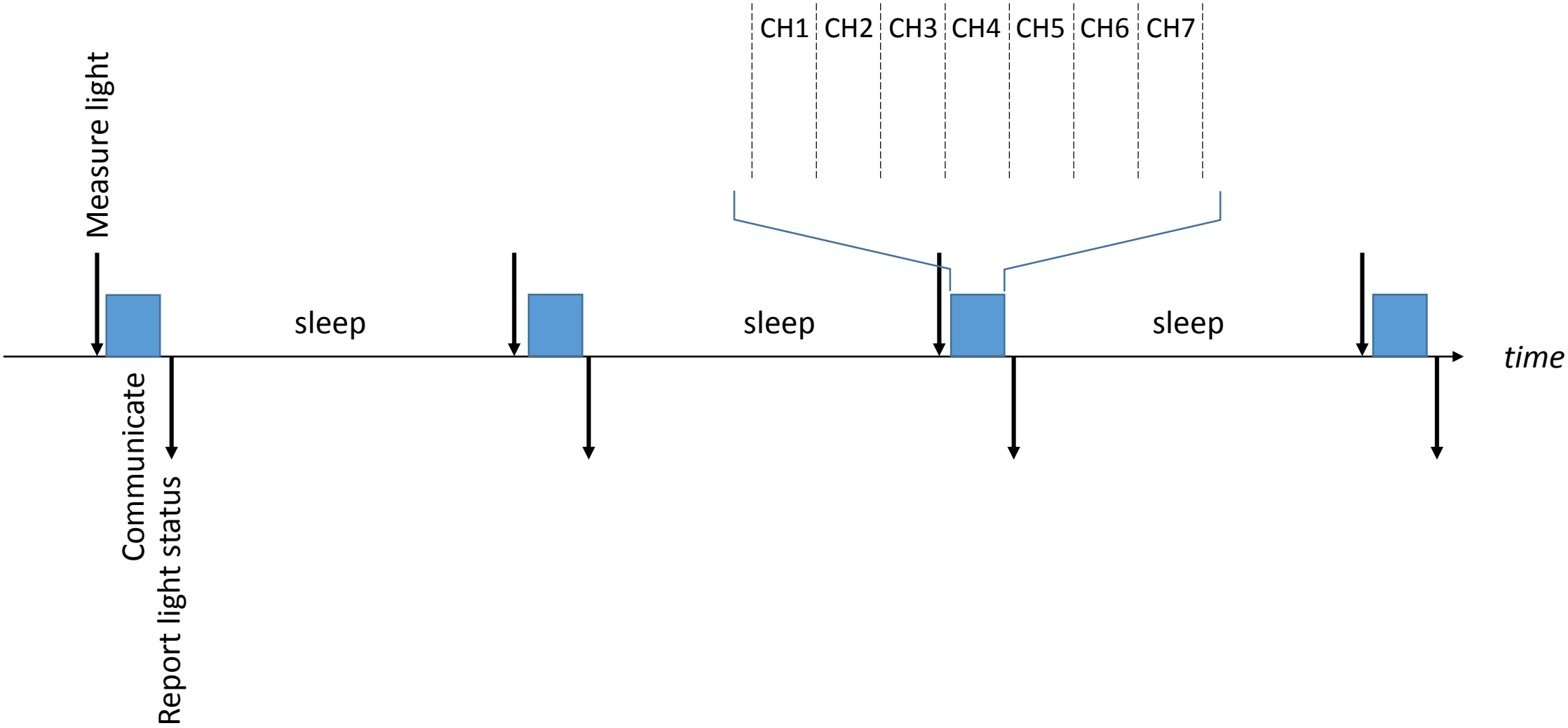
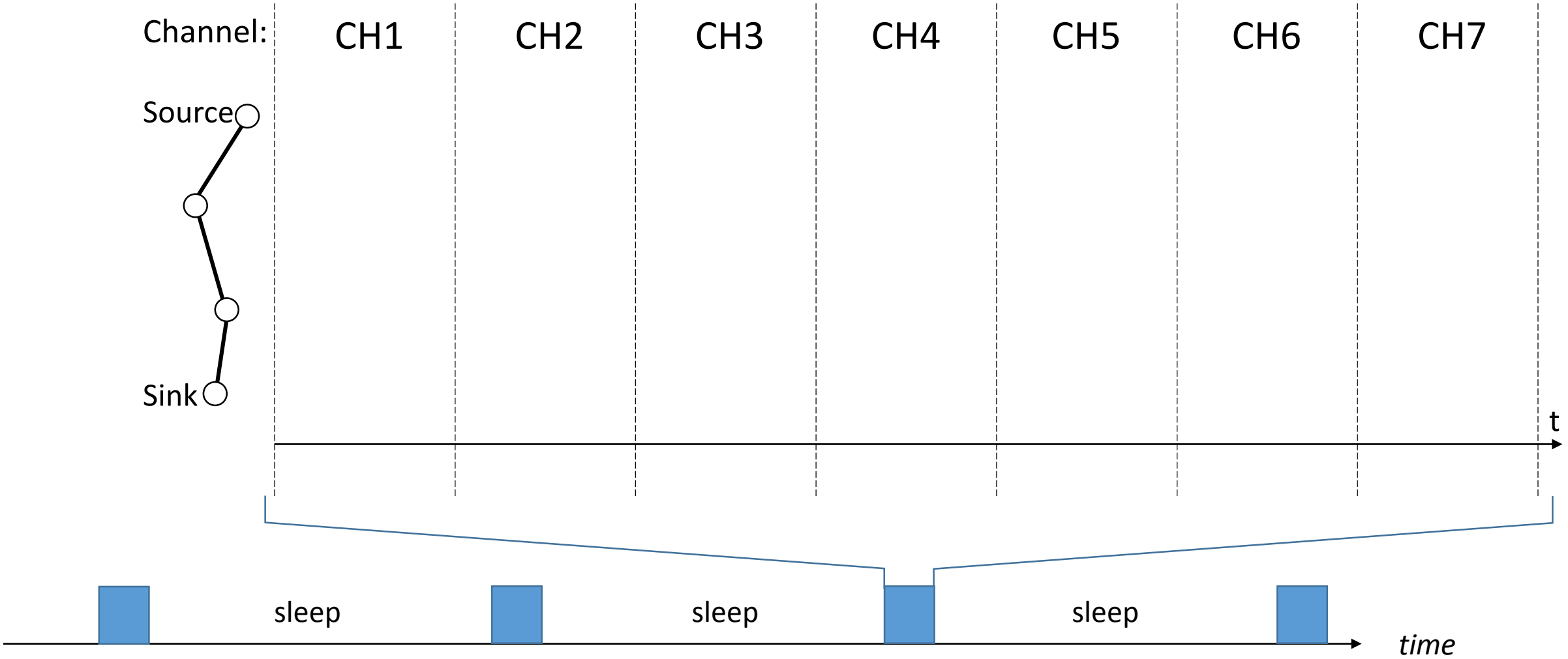
Protocol overview



Protocol overview



Glossy floods with channel hopping



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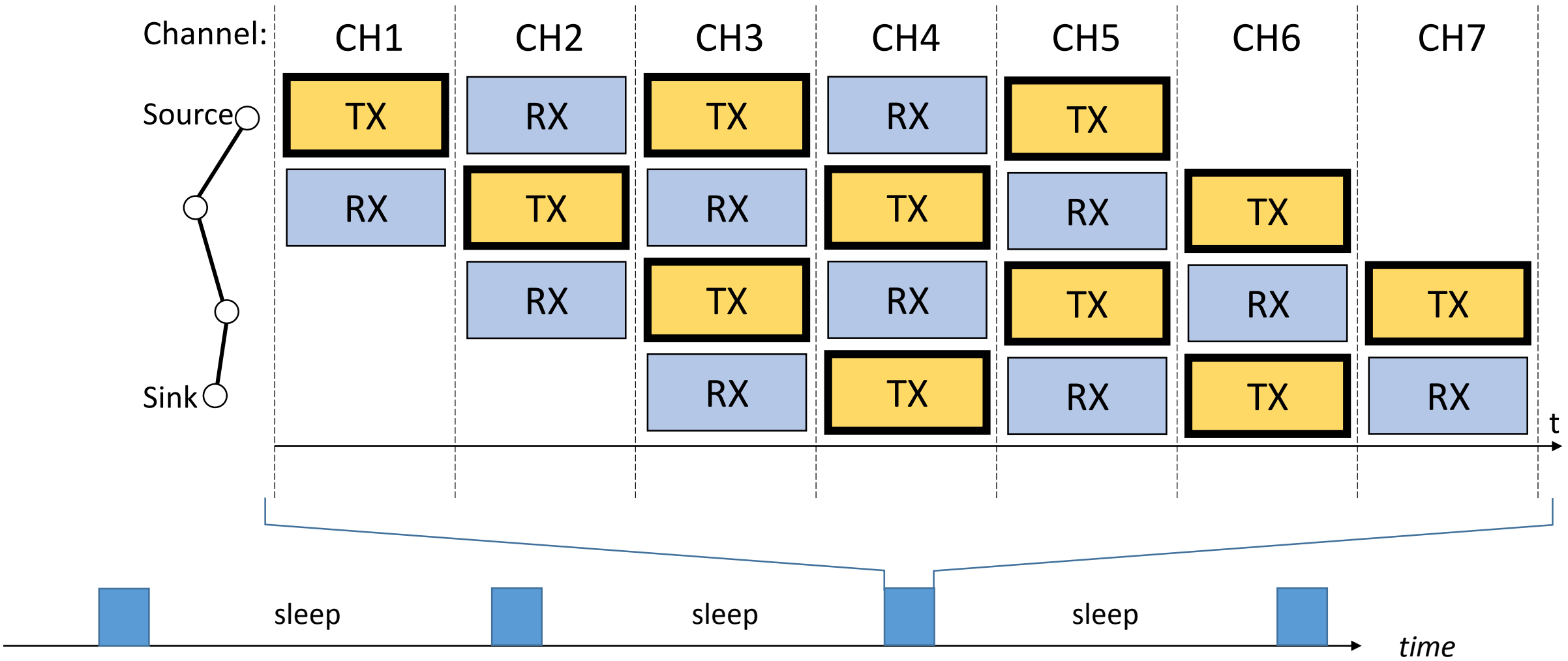
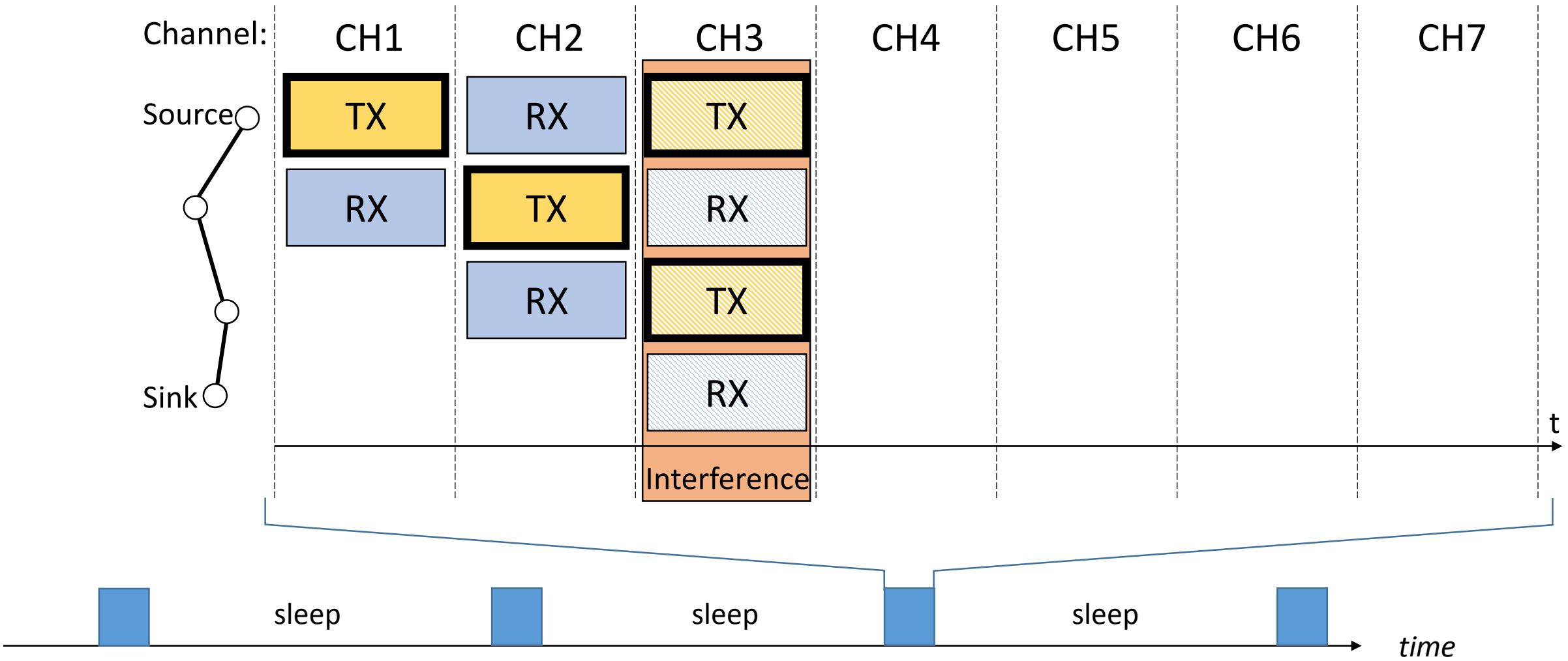
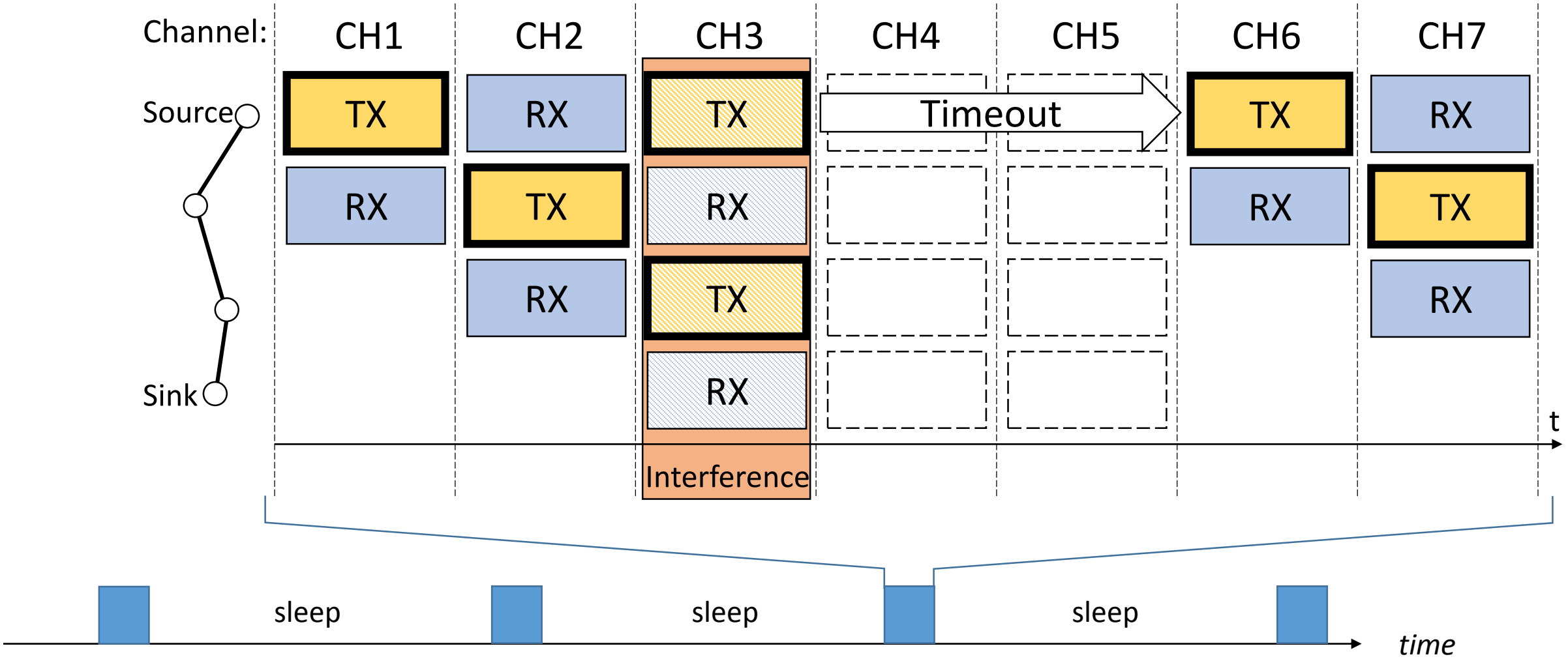


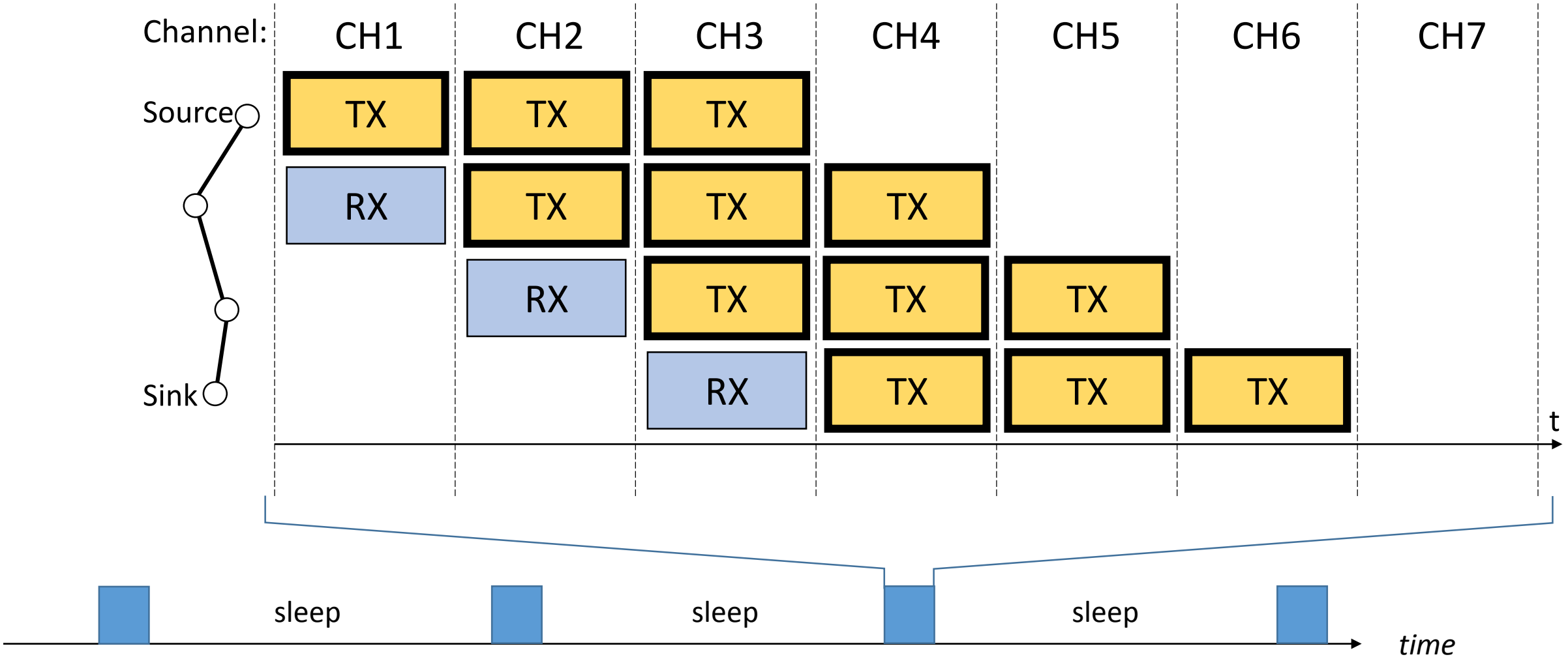
Glossy floods with channel hopping



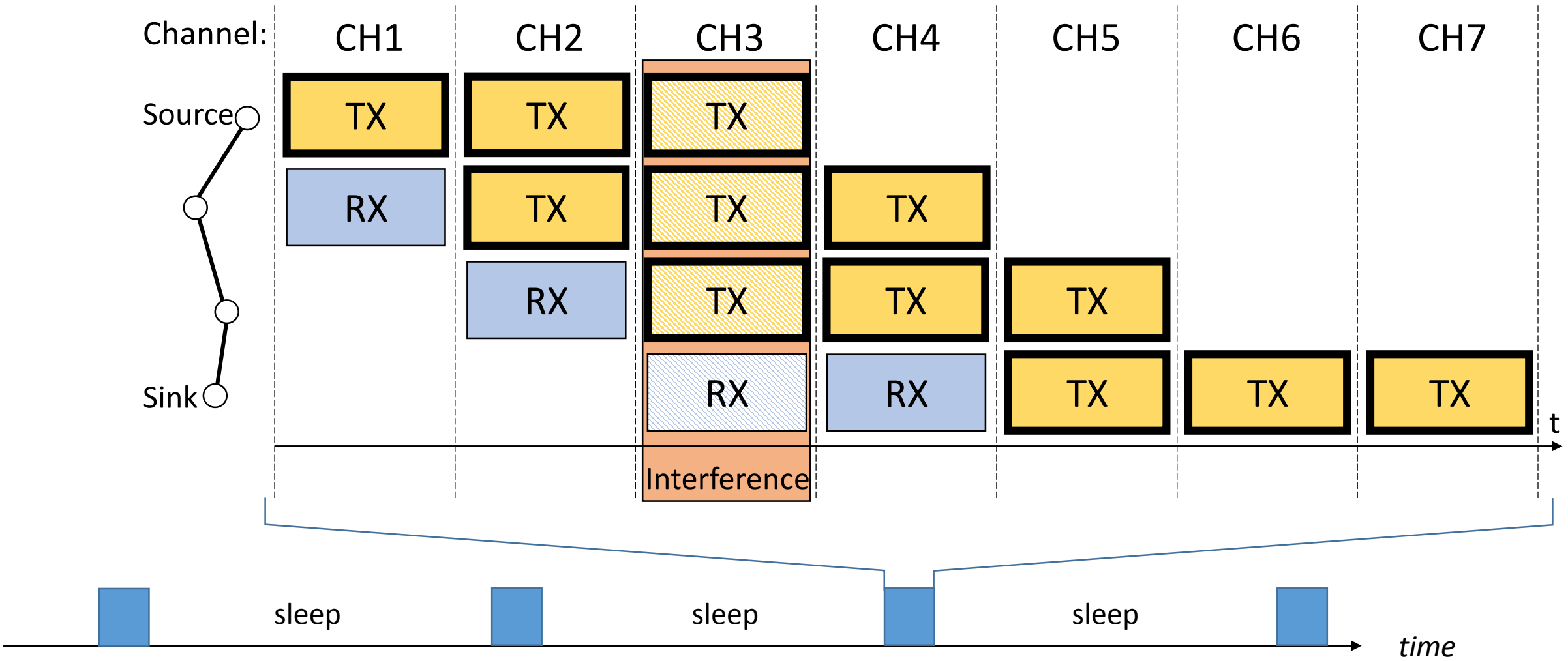
Glossy floods with channel hopping



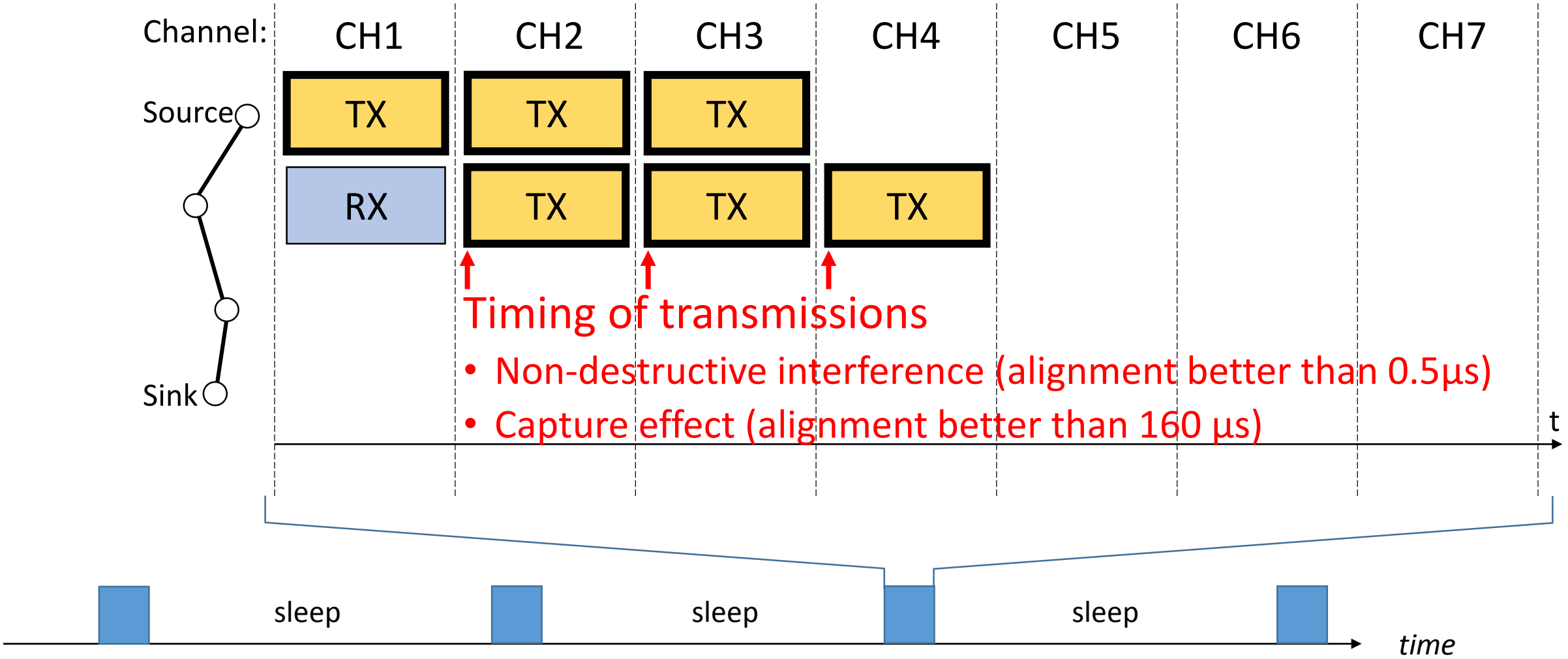
Back-to-back synchronous transmissions



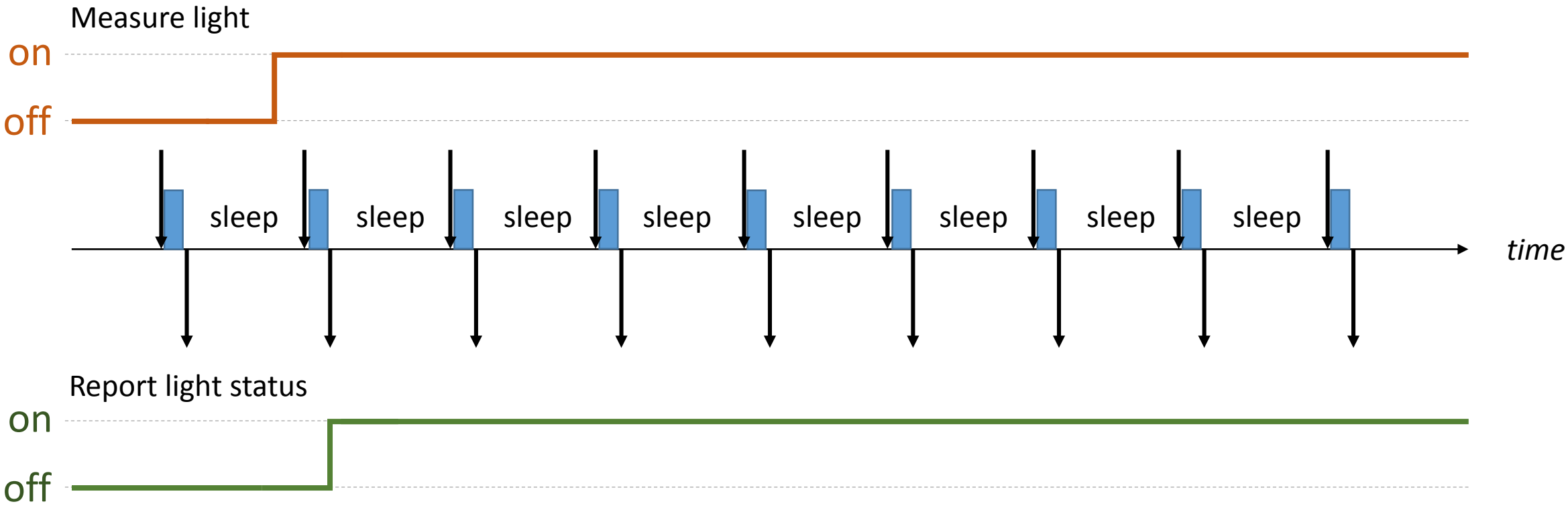
Back-to-back synchronous transmissions



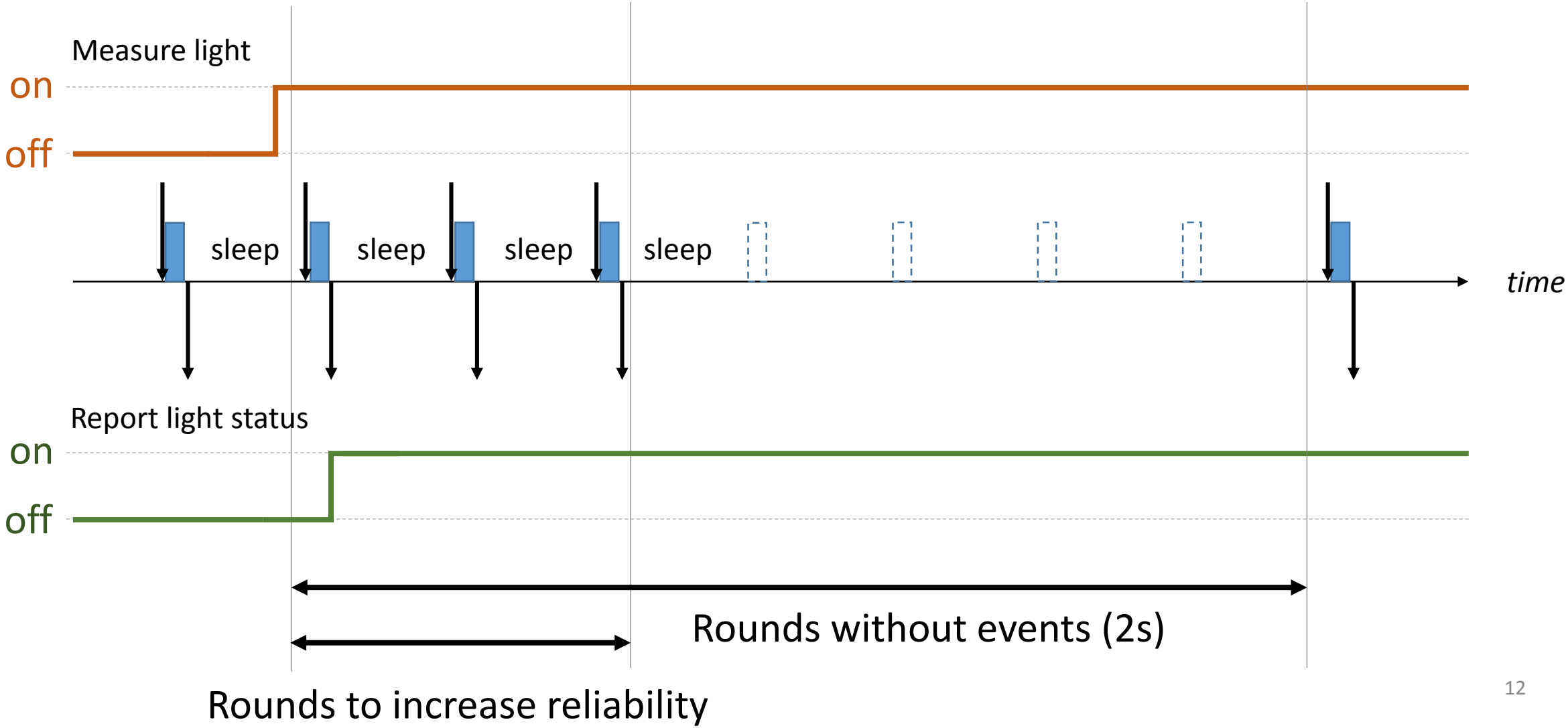
Challenge: synchronous transmissions



Energy savings using round skipping

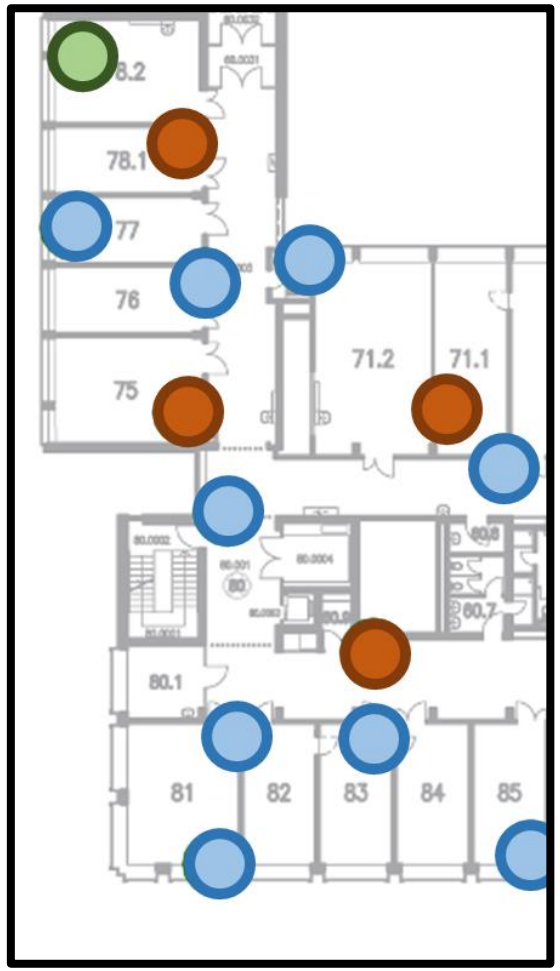


Energy savings using round skipping

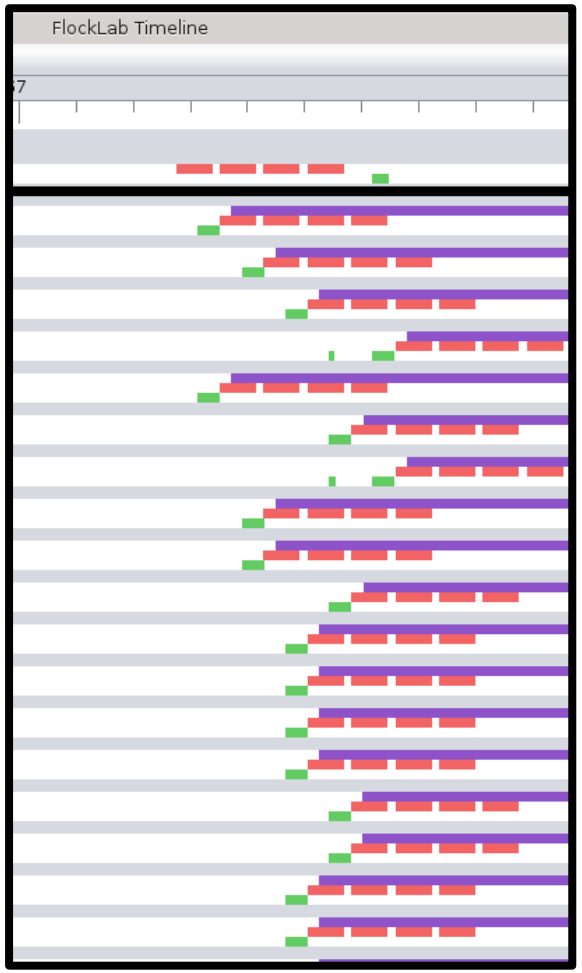


Tools

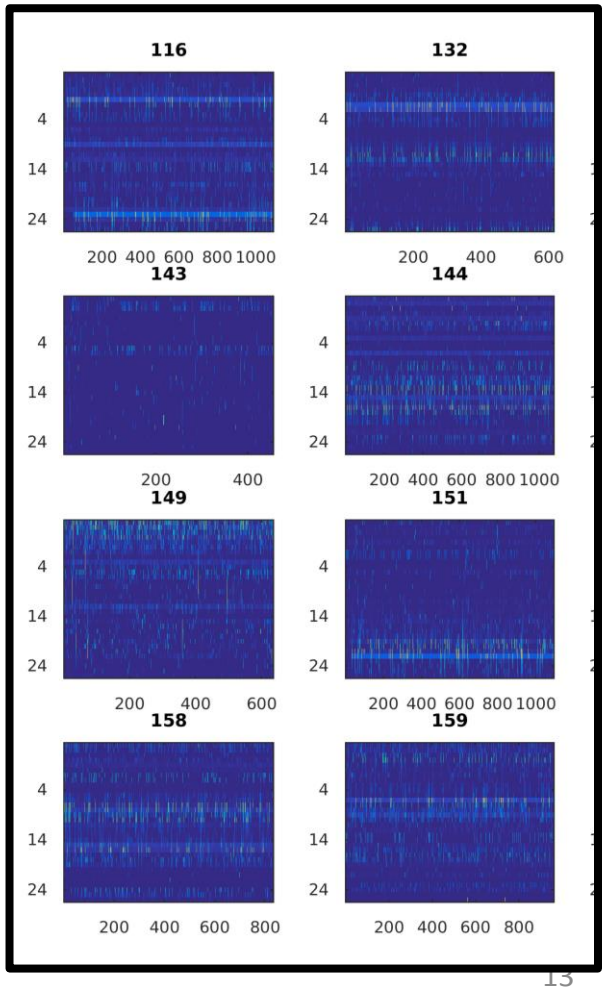
FlockLab



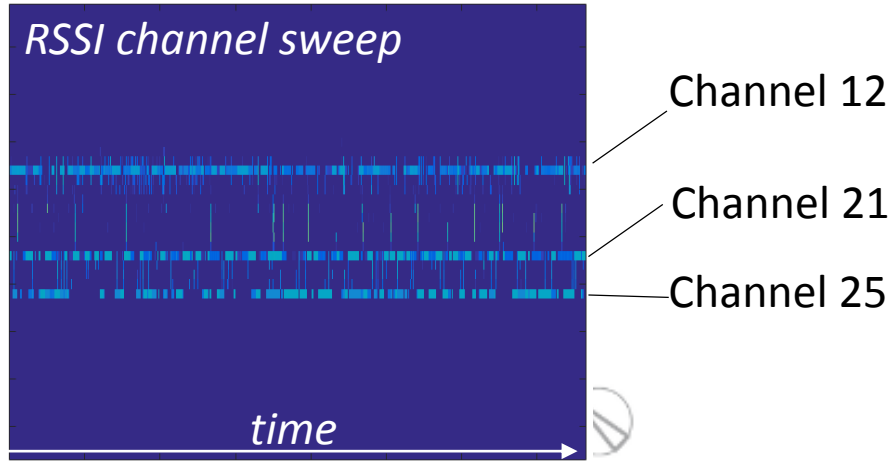
Cooja



RSSI measurements



FlockLab test scenario



Sensing node

Jammer

3 channels
80 % occupied

Relay node

Sink node

3 channels
100 ms periods
3 TX slots

Traces from FlockLab experiments in Cooja

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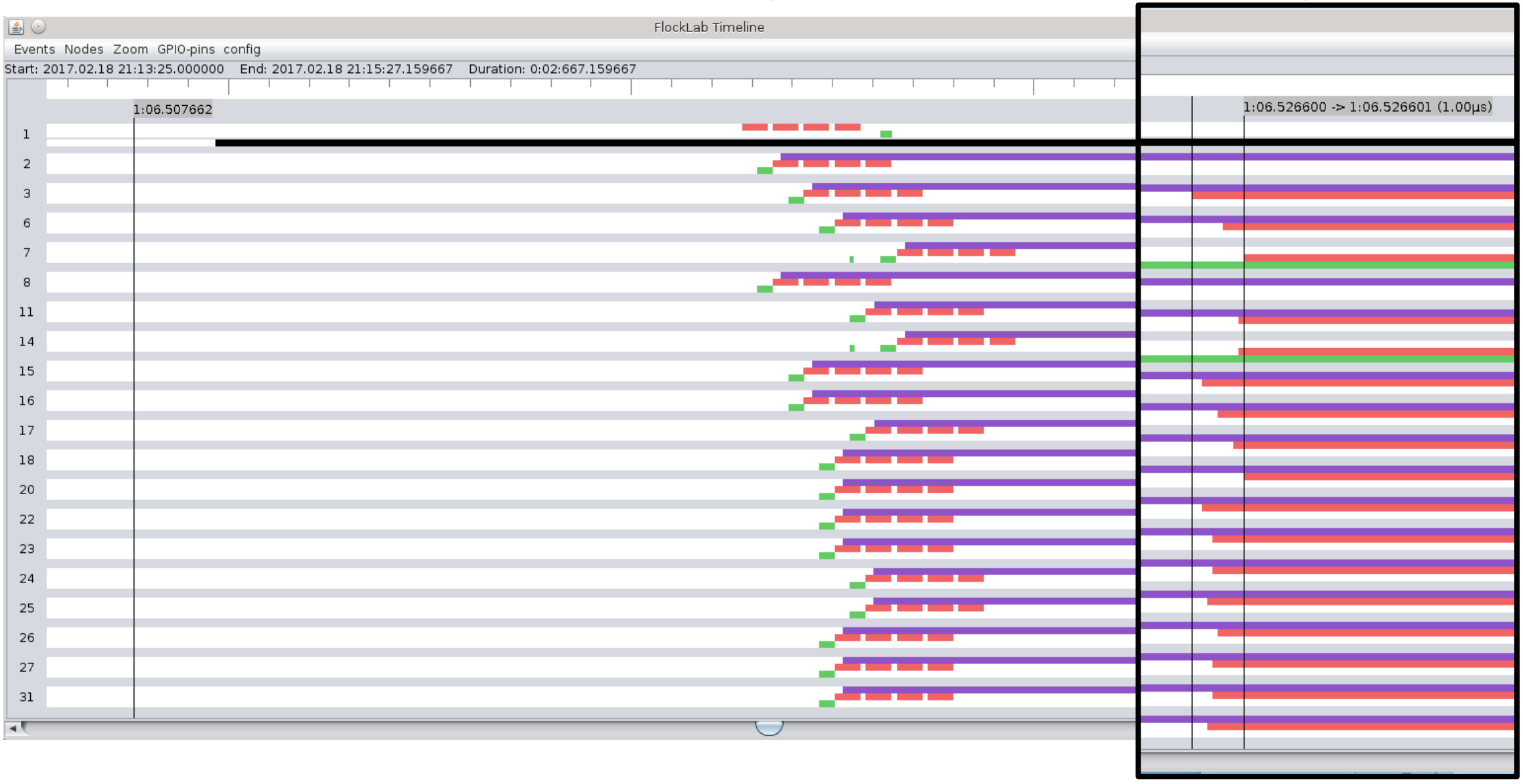

Summary

- Preparation is important
- Remote testing helps a lot
- Tools
- Thanks to the organizers!