**Announcement of a topic for:**

**Seminar Research**  x  
**Seminar Methods**  x  
**Master Theses**  x  
(please mark one or more)

<table>
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<tr>
<th>Topic</th>
<th>Application of an optimal estimation method for the determination of temperature profiles during rain with the microwave radiometer HATPRO.</th>
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<td>Release Date</td>
<td>30.08.2023</td>
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</table>
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**Description:** Microwave radiometers such as the HATPRO at LIM (LIMHAT) can be used to create temperature profiles. However, so far this only works when it is not raining. In this work, the so-called optimal estimation method will be used to derive the temperature profile during precipitation. For this purpose, only channels that pass the spectral consistency check and are therefore not disturbed by rain shall be used. In case of a disturbance also only off-zenith elevation angles should be used. As a radiative transfer model in the optimal estimation PAMTRA shall be used. Thus, it is possible to obtain consistent temperature profiles, especially during rain. The results will then be interpreted using an information content analysis.

**Literature:**

