Identification of GOES-R Storm Top Features

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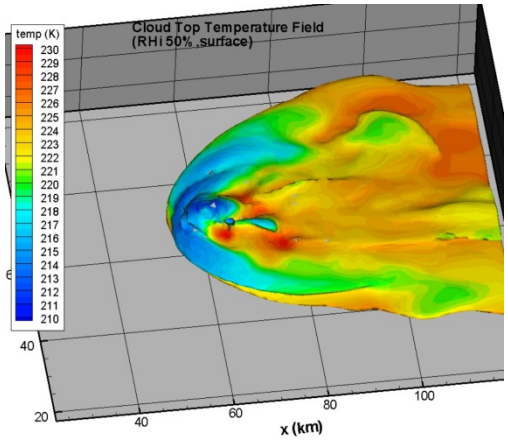
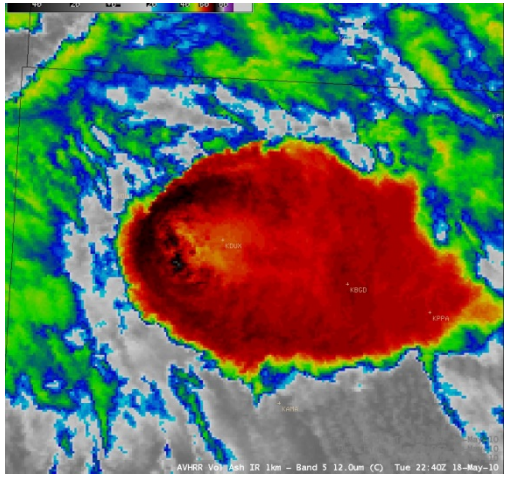
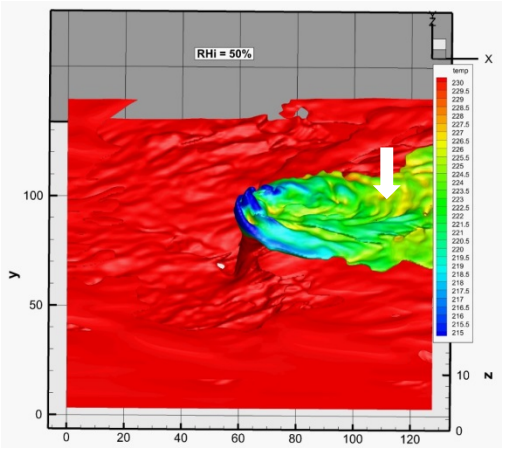
- Identify visible and IR features seen in satellite storm imageries that can be used as indicators for severe storm nowcasting and forecasting
- Utilize a physics-based double-moment cloud resolving model to simulate thunderstorm processes
- Compare simulation results of storm top structures (e.g., temperature field, constant mixing ratio surfaces, vertical velocity field) and with satellite visible and IR images to identify similarities
- Use model physics to explain the dynamic and thermodynamic processes responsible for forming the features identified
- Provide the feature-physics link to forecasting community







Top : simulated storm top (Rhi = 50%) showing the presence of ship waves (white arrow) that sometimes observed by satellites

Top left: simulated storm top temperature field showing the enhanced-V similar to that observed below

Bottom left: enhanced-V observed by AVHRR (SSEC/CIMMS)