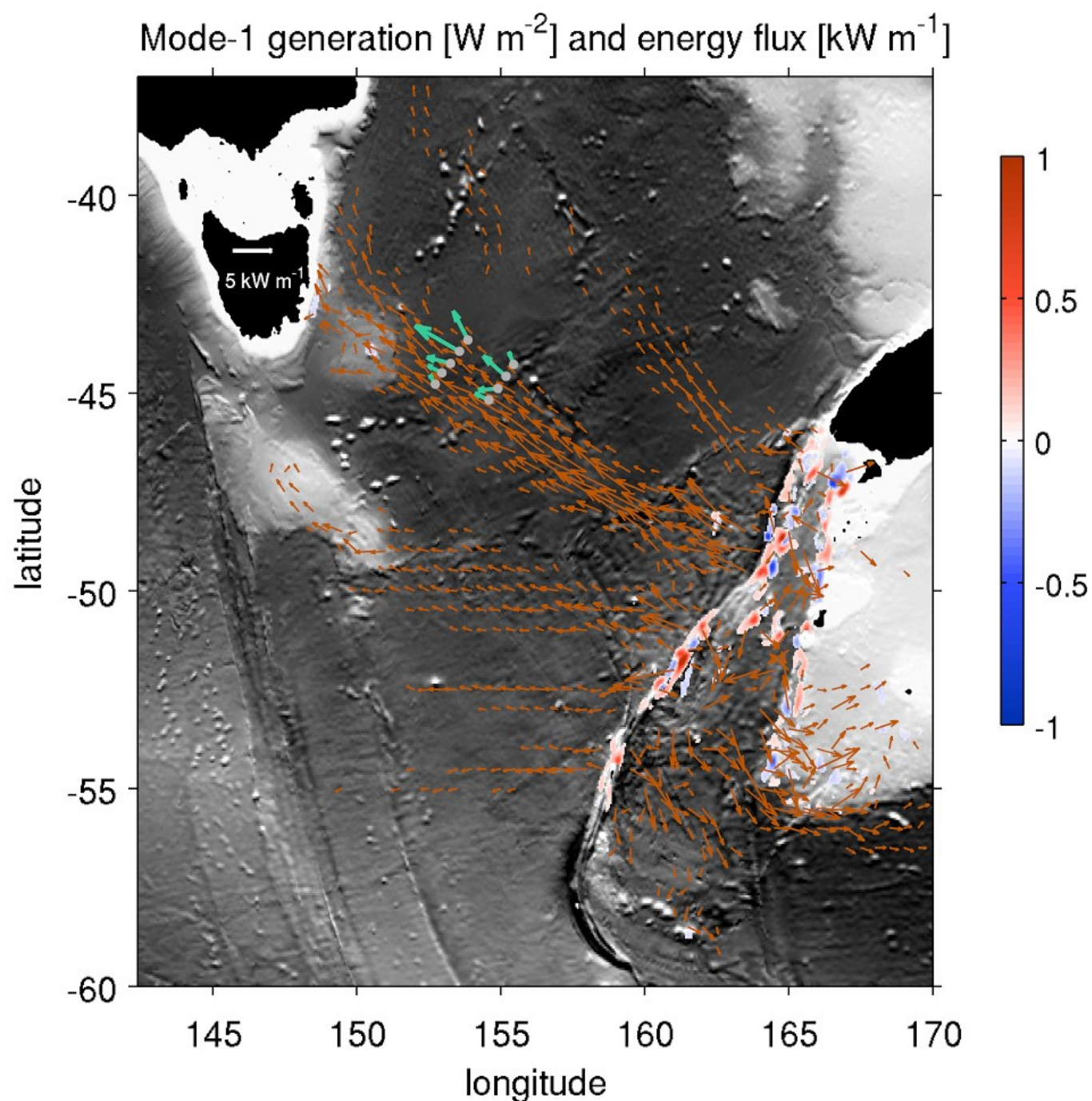


Physics Colloquium

Subsurface Waves in the Oceans and Lake Superior

Internal waves are subsurface waves between the warm surface layers and cold bottom layers in stratified fluids. They are omnipresent in the ocean and large lakes. This presentation will outline the discovery and significance of these phenomena. Then, specific data will be discussed that explain how these waves form, propagate, and dissipate. Specific case studies will include tidally driven internal waves at the Hawaiian Ridge, along the Oregon coast, and in the Tasman Sea, and wind driven internal waves in Lake Superior. The presentation will conclude with several unanswered questions about internal waves.



Internal waves are generated south of New Zealand by tidal flow over Macquarie Ridge, an underwater mountain range as tall as the Rockies. The waves propagate north west across the Tasman Sea and transport energy toward the island of Tasmania. The observed energy transport (i.e., flux; green) is similar to that predicted by a numerical model (orange).



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Wednesday March 30

3:30 pm RNS 210

Refreshments served!