

Proposal for an RO Modeling Experiment (ROMEX)

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RO Modeling Experiment (ROMEX)

Experiment of opportunity

- Obtain, and share, all possible RO data for a period (e.g. 4-6 months)
 - Latency not an issue. **Data is not in real time—several month delay is acceptable.**
 - Focus on **bfrPrf**, optionally the **atmPrf** can be provided as well
- Goal to reach 32,000 profiles per day, and more in the near future!
- Compare results from NWP experiments
 - Multiple centres build solid evidence of benefit vs number of profiles
 - Diagnostics – Fit to observations, forecast statistics, FSOI, ensemble spread

COSMIC-2	6,000
GRAS	1,250
GNOS	1,500
Tandem-X, TerraSAR-X, KOMPSAT-5, Sentinel 6A, PAZ ...	2,000
Spire	20,000
GeoOptics	1,500
PlanetiQ	3,000
Total	35,000 or more

Principles of ROMEX

- Neutrality
 - Countries and associated agencies
 - Government and commercial providers
- All data shared without restrictions or conditions
- Equal sharing of credit

Why, What, Who is ROMEX

- Common benefit
 - Promote science and benefit
 - Commercial providers showcase data and display quality and value
- Collect data: define period in years 2022-2023
 - Suggested time period, tropical cyclone season and include boreal winter
- Role of partners
 - Assist in data collection, define common storage solution
 - Define NWP experiments: period, set-up, and diagnostics
 - Government sponsors help with incremental costs
- Commercial providers
 - Provide data at long delay, processed to L2 bending angle

ROMEX Next Steps

- Form a ROMEX International Coordinating Committee (ROMEX ICC or **RICC**)
 - Identify ROMEX coordinator at providers and NWP experiment sites
 - NWP experiment contributors (experimentalists): UKMO, NASA, JCSDA, NOAA, ECMWF, MF, KMA, CMA, JMA, DWD, BoM
 - Data providers agencies: EUMETSAT, CMA, GFZ, NSO (Taiwan), GFZ, GeoOptics, Spire, PlanetiQ ...
- RICC develops detailed plan
 - Approach RO data providers, invite their participation.
 - Each provider has one representative on RICC
 - Negotiate terms of participation
 - Sponsors of ROMEX (in-kind, discuss funding need for distribution work, meetings, etc.)
 - Where data is stored (preferably a single source but could be few sources)
 - Experimentation setup; intercomparison metric and diagnostics
 - Identify time period of ROMEX (e.g. Aug-Oct 2022; Jan-Mar 2023)