**FACULTATEA DE FIZICĂ – Cercetător științific III 35**

**TEMATICA** pentru concursul pe post *Cercetător științific III 35*

1. Modelarea iradianței directe și difuze folosind modele empirice de descompunere a iradianței globale. Teorie și prezentarea unui calcul computerizat;
2. Modelarea parametrică a componentelor iradianței solare în condiții de cer senin. Teorie și prezentarea unui calcul computerizat;
3. Evaluarea impactului aerosolilor asupra energiei solare colectabile. Teorie și prezentarea unui calcul computerizat;
4. Analiza seriilor de timp a iradianței solare măsurate. Stabilitatea regimului solar radiativ. Teorie și prezentarea unui calcul computerizat;
5. Parametrizarea câmpurilor efective de nori. Teorie și prezentarea unui calcul computerizat;
6. Prognoza iradianței solare pe baza modelelor statistice. Teorie și prezentarea unui calcul computerizat;
7. Analiza seriilor de date din BSRN și validarea unui model de estimare sau prognoză a iradianței solare. Teorie și prezentarea unui calcul computerizat;
8. Analiza seriilor de date din AERONET și extragerea proprietăților aerosolilor. Teorie și prezentarea unui calcul computerizat;
9. Analiza seriilor de date din AERONET din CAMS pentru analiza spațio-temporală a variabilității aerosolilor și iradinței solare. Teorie și prezentarea unui calcul computerizat.
10. Modeling of direct and diffuse irradiance using empirical models of global irradiance decomposition. Theory and presentation of a computerized calculation;
11. Parametric modeling of solar irradiance components in clear-sky conditions. Theory and presentation of a computerized calculation;
12. Assessment of the impact of aerosols on collectible solar energy. Theory and presentation of a computerized calculation;
13. Analysis of the time series of the measured solar irradiance. Stability of the solar radiative regime. Theory and presentation of a computerized calculation;
14. Parameterization of effective cloud fields. Theory and presentation of a computerized calculation;
15. Forecast of solar irradiance based on statistical models. Theory and presentation of a computerized calculation;
16. Analysis of BSRN data series and validation of a model for estimating or forecasting solar irradiance. Theory and presentation of a computerized calculation;
17. Analysis of AERONET data series and extraction of aerosol properties. Theory and presentation of a computerized calculation;
18. Analysis of the data series from AERONET from CAMS for the spatio-temporal analysis of the aerosol variability and solar irradiance. Theory and presentation of a computerized calculation.

**BIBLIOGRAFIE** pentru concursul pe post *Cercetător științific III 35*

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