**Anexa 1**

**Raportul Institutului Astronomic din cadrul Secţiei de Stiinte Matematice a Academiei Române pentru anul 2014**

1. Membrii secţiei - lucrări publicate în 2014; cea mai importantă lucrare a fiecărui membru în 2014
2. **Institute de cercetare**: Institutul Astronomic

Institutul Astronomic al Academiei Romane are o vechime de 106 ani, fiind singurul institut de profil din tara.

Observatoarele/Filialele Institutului Astronomic (Bucureşti, Cluj-Napoca, Timişoara) au participat în anul 2014 la realizarea a 3 programe totalizând 6 proiecte, şi a 9 contracte extrabugetare.

**Domenii de cercetare:** Astronomie si Astrofizica

Cercetarea realizata in cadrul Institutului Astronomic in anul 2014 a vizat urmatoarele domenii din cadrul Astronomiei si Astrofizicii (clasificare UNESCO 21, cod CAEN 7219): Fizica Solara, Astrometria si Astrofizica obiectelor din Sistemul Solar, Astrofizica Stelara, Astronomie Galactica, Astronomie Extragalactica, Cosmologie, Mecanica Cereasca, Istoria si Invatamantul Astronomiei.

**Programe academice de cercetare si teme/proiecte de cercetare ale Institutul Astronomic in anul 2014 :**

**PROGRAMUL I: *CERCETĂRI DE ASTROFIZICĂ SOLARA, STELARA, GALACTICA, EXTRAGALACTICA ŞI COSMOLOGIE***

Proiectul I.1: *Dinamica atmosferei solare şi a heliosferei*

Proiectul I.2: *Astrofizică stelară şi sisteme planetare*

Proiectul I.3: *Studii de astronomie extragalactică şi cosmologie*

**PROGRAMUL II: *STUDII DE ASTROMETRIE ŞI MECANICĂ CEREASCĂ***

Proiectul II.1: *Sisteme de referinţă spaţio-temporale, astrometrie CCD*

Proiectul II.2: *Studiul dinamicii corpurilor cereşti prin metode cantitative şi calitative*

**PROGRAMUL III: *STUDII DE ISTORIA ŞI ÎNVAŢAMÂNTUL ASTRONOMIEI***

Proiectul III.1: *Studii de istorie şi educaţie astronomică în context românesc şi european*

**Programe fundamentale** (dacă este cazul).

**Programe prioritare** (dacă este cazul).

**3. Resurse umane: cercetători, doctori, conducători de doctorate (vă rugăm folosiţi tabelul din anexa 2).**

Persoane in cercetare: 33

Cercetatori CS-CSI: 26

Doctori: 21

Conducatori de doctorat: 2

**4. Activitate formare de tineri cercetători: doctoranzi, post-doctoranzi.**

Doctoranzi: 6 (2 strainatate, Germania, Anglia; 4 in tara),

Post-doctoranzi: 1

In cadrul Institutului Astronomic, in anul 2014, au fost sustinute 1 examen si 1 referat de doctorat.

**5.** **Infrastructură de cercetare nouă achiziţionată/completată în anul 2014: biblioteca de specialitate, echipamente de cercetare (cu valori peste 10 kEuro), etc.**

**6.** **Rezultate obţinute în cercetare în 2014 (conform tabelului din Anexa 2).**

**Articole publicate in Reviste ISI din strainatate: 21**

(12 cu FI ISI>2, 9 cu FI ISI<2)

**Carti publicate in EAR: 2**

**Carti publicate in tara: 1**

**Citari in 2014 ale lucrarilor publicate anterior: 501**

(244 cu FI ISI>2, 157 cu FI ISI<2)

**Comunicari la manifestari stiintifice interne si internationale: 34**

**7. Realizările excelente din anul 2014 (cca. 3 rezultate), ale secțiilor și institutelor pe care le coordonați:**

**Cărți (fundamentale**): 2 in domeniul Astronomiei

INSTITUTUL ASTRONOMIC (colectiv)

*Anuarul Astronomic 2014*

Ed. Acad. Rom., Bucureşti, 2013 (aparut in 2014)

INSTITUTUL ASTRONOMIC (colectiv)

*Anuarul Astronomic 2015*

Ed. Acad. Rom., Bucureşti, 2014 (sub tipar)

**Lucrări științifice (publicate în reviste cu factor de impact mare, FI ISI>2):**12

1. [Chaplin, W. J.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Chaplin,+W&fullauthor=Chaplin,%20W.%20J.&charset=UTF-8&db_key=PRE); [Basu, S.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Basu,+S&fullauthor=Basu,%20S.&charset=UTF-8&db_key=PRE); [Huber, D.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Huber,+D&fullauthor=Huber,%20D.&charset=UTF-8&db_key=PRE); [Serenelli, A](http://adsabs.harvard.edu/cgi-bin/author_form?author=Serenelli,+A&fullauthor=Serenelli,%20A&charset=UTF-8&db_key=PRE); [Casagrande, L.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Casagrande,+L&fullauthor=Casagrande,%20L.&charset=UTF-8&db_key=PRE); [Silva Aguirre, V.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Silva+Aguirre,+V&fullauthor=Silva%20Aguirre,%20V.&charset=UTF-8&db_key=PRE); [Ball, W. H.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Ball,+W&fullauthor=Ball,%20W.%20H.&charset=UTF-8&db_key=PRE); [Creevey, O. L.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Creevey,+O&fullauthor=Creevey,%20O.%20L.&charset=UTF-8&db_key=PRE); [Gizon, L.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Gizon,+L&fullauthor=Gizon,%20L.&charset=UTF-8&db_key=PRE); [Handberg, R.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Handberg,+R&fullauthor=Handberg,%20R.&charset=UTF-8&db_key=PRE); [Karoff, C.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Karoff,+C&fullauthor=Karoff,%20C.&charset=UTF-8&db_key=PRE); [Lutz, R.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Lutz,+R&fullauthor=Lutz,%20R.&charset=UTF-8&db_key=PRE); [Marques, J. P.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Marques,+J&fullauthor=Marques,%20J.%20P.&charset=UTF-8&db_key=PRE); [Miglio, A.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Miglio,+A&fullauthor=Miglio,%20A.&charset=UTF-8&db_key=PRE); [Stello, D.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Stello,+D&fullauthor=Stello,%20D.&charset=UTF-8&db_key=PRE); [**Suran, M. D.**](http://adsabs.harvard.edu/cgi-bin/author_form?author=Suran,+M&fullauthor=Suran,%20M.%20D.&charset=UTF-8&db_key=PRE)**;** [**Pricopi, D.**](http://adsabs.harvard.edu/cgi-bin/author_form?author=Pricopi,+D&fullauthor=Pricopi,%20D.&charset=UTF-8&db_key=PRE); [Metcalfe, T. S.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Metcalfe,+T&fullauthor=Metcalfe,%20T.%20S.&charset=UTF-8&db_key=PRE); [Monteiro, M. J. P. F. G.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Monteiro,+M&fullauthor=Monteiro,%20M.%20J.%20P.%20F.%20G.&charset=UTF-8&db_key=PRE); [Molenda-Zakowicz, J.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Molenda-Zakowicz,+J&fullauthor=Molenda-Zakowicz,%20J.&charset=UTF-8&db_key=PRE); [Appourchaux, T.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Appourchaux,+T&fullauthor=Appourchaux,%20T.&charset=UTF-8&db_key=PRE); [Christensen-Dalsgaard, J.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Christensen-Dalsgaard,+J&fullauthor=Christensen-Dalsgaard,%20J.&charset=UTF-8&db_key=PRE); [Elsworth, Y.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Elsworth,+Y&fullauthor=Elsworth,%20Y.&charset=UTF-8&db_key=PRE); [Garcia, R. A.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Garcia,+R&fullauthor=Garcia,%20R.%20A.&charset=UTF-8&db_key=PRE); [Houdek, G.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Houdek,+G&fullauthor=Houdek,%20G.&charset=UTF-8&db_key=PRE); [Kjeldsen, H.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Kjeldsen,+H&fullauthor=Kjeldsen,%20H.&charset=UTF-8&db_key=PRE); [Bonanno, A.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Bonanno,+A&fullauthor=Bonanno,%20A.&charset=UTF-8&db_key=PRE); [Campante, T. L.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Campante,+T&fullauthor=Campante,%20T.%20L.&charset=UTF-8&db_key=PRE); [Corsaro, E.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Corsaro,+E&fullauthor=Corsaro,%20E.&charset=UTF-8&db_key=PRE); [Gaulme, P.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Gaulme,+P&fullauthor=Gaulme,%20P.&charset=UTF-8&db_key=PRE); [Hekker, S.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Hekker,+S&fullauthor=Hekker,%20S.&charset=UTF-8&db_key=PRE); [Mathur, S.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Mathur,+S&fullauthor=Mathur,%20S.&charset=UTF-8&db_key=PRE); [Mosser, B.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Mosser,+B&fullauthor=Mosser,%20B.&charset=UTF-8&db_key=PRE); [Regulo, C.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Regulo,+C&fullauthor=Regulo,%20C.&charset=UTF-8&db_key=PRE); Salabert, D.,

*Asteroseismic fundamental properties of solar-type stars observed by the NASA Kepler Mission*

The Astrophysical Journal Supplement, Volume 210, Issue 1, article id. 1, 22 pp. (2014)

DOI: [10.1088/0067-0049/210/1/1](http://dx.doi.org/10.1088/0067-0049/210/1/1)

***Impact Factor:* 16.238**

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[Mazumdar, A.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Mazumdar,+A&fullauthor=Mazumdar,%20A.&charset=UTF-8&db_key=AST); [Montalbán, J.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Montalban,+J&fullauthor=Montalb%c3%a1n,%20J.&charset=UTF-8&db_key=AST); [Monteiro, M. J. P. F. G.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Monteiro,+M&fullauthor=Monteiro,%20M.%20J.%20P.%20F.%20G.&charset=UTF-8&db_key=AST); [Salabert, D.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Salabert,+D&fullauthor=Salabert,%20D.&charset=UTF-8&db_key=AST); [Serenelli, A.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Serenelli,+A&fullauthor=Serenelli,%20A.&charset=UTF-8&db_key=AST); [Stello, D.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Stello,+D&fullauthor=Stello,%20D.&charset=UTF-8&db_key=AST); [Ste&¸sacute;licki, M.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Ste&,sacute;licki,+M&fullauthor=Ste%26%c2%b8sacute%3blicki,%20M.&charset=UTF-8&db_key=AST); [**Suran, M. D.**](http://adsabs.harvard.edu/cgi-bin/author_form?author=Suran,+M&fullauthor=Suran,%20M.%20D.&charset=UTF-8&db_key=AST)**;** [Yıldız, M.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Yildiz,+M&fullauthor=Y%c4%b1ld%c4%b1z,%20M.&charset=UTF-8&db_key=AST); [Aksoy, C.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Aksoy,+C&fullauthor=Aksoy,%20C.&charset=UTF-8&db_key=AST); [Elsworth, Y.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Elsworth,+Y&fullauthor=Elsworth,%20Y.&charset=UTF-8&db_key=AST); [Gruberbauer, M.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Gruberbauer,+M&fullauthor=Gruberbauer,%20M.&charset=UTF-8&db_key=AST); [Guenther, D. B.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Guenther,+D&fullauthor=Guenther,%20D.%20B.&charset=UTF-8&db_key=AST); [Lebreton, Y.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Lebreton,+Y&fullauthor=Lebreton,%20Y.&charset=UTF-8&db_key=AST); [Molaverdikhani, K.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Molaverdikhani,+K&fullauthor=Molaverdikhani,%20K.&charset=UTF-8&db_key=AST); [**Pricopi, D.**](http://adsabs.harvard.edu/cgi-bin/author_form?author=Pricopi,+D&fullauthor=Pricopi,%20D.&charset=UTF-8&db_key=AST)**;** [Simoniello, R.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Simoniello,+R&fullauthor=Simoniello,%20R.&charset=UTF-8&db_key=AST); [White, T. R.](http://adsabs.harvard.edu/cgi-bin/author_form?author=White,+T&fullauthor=White,%20T.%20R.&charset=UTF-8&db_key=AST),

*Properties of 42 Solar-type Kepler Targets from the Asteroseismic Modeling Portal*

The Astrophysical Journal Supplement, Volume 214, Issue 2, article id. 27, 13 pp. (2014)

DOI: [10.1088/0067-0049/214/2/27](http://dx.doi.org/10.1088/0067-0049/214/2/27)

***Impact Factor:* 16.238**

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*Generalized Langevin equation with colored noise description of the stochastic oscillations of accretion disks*

European Physical Journal C, **74** (2014), Issue: 5, Article Number: 2900

***Impact Factor:* 5.436**

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*Appearance of an accretion disc perturbed by fractional Brownian Motion density*

Monthly Notices of the Royal Astronomical Society, **439** (2014), Issue: 4, 3790 – 3797

***Impact Factor:* 5.226**

5. [**Birlan, M.**](http://adsabs.harvard.edu/cgi-bin/author_form?author=Birlan,+M&fullauthor=Birlan,%20M.&charset=UTF-8&db_key=AST)**;** [**Nedelcu, D. A.**](http://adsabs.harvard.edu/cgi-bin/author_form?author=Nedelcu,+D&fullauthor=Nedelcu,%20D.%20A.&charset=UTF-8&db_key=AST)**;** [**Popescu, M.**](http://adsabs.harvard.edu/cgi-bin/author_form?author=Popescu,+M&fullauthor=Popescu,%20M.&charset=UTF-8&db_key=AST)**;** [Vernazza, P.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Vernazza,+P&fullauthor=Vernazza,%20P.&charset=UTF-8&db_key=AST); [Colas, F.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Colas,+F&fullauthor=Colas,%20F.&charset=UTF-8&db_key=AST); [Kryszczyńska, A.](http://adsabs.harvard.edu/cgi-bin/author_form?author=Kryszczynska,+A&fullauthor=Kryszczy%c5%84ska,%20A.&charset=UTF-8&db_key=AST)

*Spectroscopy and surface properties of (809) Lundia*

Monthly Notices of the Royal Astronomical Society, Volume 437, Issue 1, p.176-184 (2014)

DOI: [10.1093/mnras/stt1869](http://dx.doi.org/10.1093/mnras/stt1869)

***Impact Factor:* 5.226**

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*Evidence for a source of H chondrites in the outer main asteroid belt*

Astronomy & Astrophysics, Volume 567, id.L7, 5 pp. (2014)

DOI: [10.1051/0004-6361/201423949](http://dx.doi.org/10.1051/0004-6361/201423949)

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*Solar Wind Electron Strahls Associated with a High-Latitude CME: Ulysses Observations*

Solar Physics, Volume 289, Issue 11, pp.4239-4266 (2014)

DOI: [10.1007/s11207-014-0558-y](http://dx.doi.org/10.1007/s11207-014-0558-y)

***Impact Factor:* 3.805**

8. Paulescu, Marius, Oana Mares, Eugenia Paulescu, Nicoleta Stefu, Angel Pacurar, Delia Calinoiu, Paul Gravila, Nicolina Pop, **Remus Boata**.

*Nowcasting solar irradiance using the sunshine number*

Energy Conversion and Management 79, pp. 690-697 (2014)

***Impact Factor:***  **3.590**

9. [**Roman, R.**](http://adsabs.harvard.edu/cgi-bin/author_form?author=Roman,+R&fullauthor=Roman,%20R.&charset=UTF-8&db_key=AST)**;** [**Szücs-Csillik, I.**](http://adsabs.harvard.edu/cgi-bin/author_form?author=Szuecs-Csillik,+I&fullauthor=Sz%c3%bccs-Csillik,%20I.&charset=UTF-8&db_key=AST)

*Generalization of Levi-Civita regularization in the restricted three-body problem*

Astrophysics and Space Science, Volume 349, Issue 1, pp.117-123 (2014)

DOI: [10.1007/s10509-013-1628-6](http://dx.doi.org/10.1007/s10509-013-1628-6)

***Impact Factor:* 2.401**

10. [**Roman, R.**](http://adsabs.harvard.edu/cgi-bin/author_form?author=Roman,+R&fullauthor=Roman,%20R.&charset=UTF-8&db_key=AST)**;** [**Szücs-Csillik, I.**](http://adsabs.harvard.edu/cgi-bin/author_form?author=Szuecs-Csillik,+I&fullauthor=Sz%c3%bccs-Csillik,%20I.&charset=UTF-8&db_key=AST)

*A family of zero-velocity curves in the restricted three-body problem*

Astrophysics and Space Science, Volume 352, Issue 2, pp.481-491 (2014)

DOI: [10.1007/s10509-014-1988-6](http://dx.doi.org/10.1007/s10509-014-1988-6)

***Impact Factor:* 2.401**

11.[Calinoiu, Delia-Gabriela](http://adsabs.harvard.edu/cgi-bin/author_form?author=Calinoiu,+D&fullauthor=Calinoiu,%20Delia-Gabriela&charset=UTF-8&db_key=PHY); [Stefu, Nicoleta](http://adsabs.harvard.edu/cgi-bin/author_form?author=Stefu,+N&fullauthor=Stefu,%20Nicoleta&charset=UTF-8&db_key=PHY); [Paulescu, Marius](http://adsabs.harvard.edu/cgi-bin/author_form?author=Paulescu,+M&fullauthor=Paulescu,%20Marius&charset=UTF-8&db_key=PHY); [Trif-Tordai, Gavrilă](http://adsabs.harvard.edu/cgi-bin/author_form?author=Trif-Tordai,+G&fullauthor=Trif-Tordai,%20Gavril%c4%83&charset=UTF-8&db_key=PHY); [Mares, Oana](http://adsabs.harvard.edu/cgi-bin/author_form?author=Mares,+O&fullauthor=Mares,%20Oana&charset=UTF-8&db_key=PHY); [Paulescu, Eugenia](http://adsabs.harvard.edu/cgi-bin/author_form?author=Paulescu,+E&fullauthor=Paulescu,%20Eugenia&charset=UTF-8&db_key=PHY); [**Boata, Remus**](http://adsabs.harvard.edu/cgi-bin/author_form?author=Boata,+R&fullauthor=Boata,%20Remus&charset=UTF-8&db_key=PHY); [Pop, Nicolina](http://adsabs.harvard.edu/cgi-bin/author_form?author=Pop,+N&fullauthor=Pop,%20Nicolina&charset=UTF-8&db_key=PHY); [Pacurar, Angel](http://adsabs.harvard.edu/cgi-bin/author_form?author=Pacurar,+A&fullauthor=Pacurar,%20Angel&charset=UTF-8&db_key=PHY)

*Evaluation of errors made in solar irradiance estimation due to averaging the Angstrom turbidity coefficient*

Atmospheric Research, Volume 150, p. 69-78 (2014)

DOI: [10.1016/j.atmosres.2014.07.015](http://dx.doi.org/10.1016/j.atmosres.2014.07.015)

***Impact Factor:***  **2.241**

12. Dănescu, R., Ciurte, A., **Turcu, V.**

*A Low Cost Automatic Detection and Ranging System for Space Surveillance in the Medium Earth Orbit Region and Beyond*

Sensors, **14** (2014), 2703 – 2731

***Impact Factor:* 2.048**

**Rapoarte de mare interese național**: 5

**1. C.Dumitrache**

*Integrarea strategiei nationale Space Weather solar in strategia ESA*

Raport prezentat la **ROSA/SSA** , septembrie 2014

**2. Dumitrache, C., Popescu, N.A., Suran, M.D.**

Raport de institut trimis la **ESA/EMITS (European Spce Agency)**, september 2014

**3. Suran, M.**

Raport de tara trimis la **FP7/ASTRONET (European Network for Astronomy),**

Bucharest, 19 November 2014,

in cadrul participarii la  FP7/ASTRONET  “*Integrating and strengthening the European Research Area*”, ERA-NET, Coordination and Support Action for Large Telescopes ,  Coordinating Strategic Planning for European Astronomy, Contract no. 262162

**4. Popescu, P.**

**Activitatea in CNCA (Comisia Nationala pentru Cercetari Antarctice)** privind elaborarea planului strategic pentru **Tema 3**: Antarctica - platformă de observaţii astronomice, astrofizice, geofizice şi climatologice, direcţia de cercetare.

Raport de Institut prezentat la **CNCA**, septembrie 2014.

5. **Turcu, V.**

Raport „SSA for Romania”, susţinut în data de 1.10.2014 la ESOC -ESA, Darmstadt, Germania. In cadrul contractului ESA Contract No.4000108671/13/D/MRP, “SSA for Romania”, 2013-2014.

**Alte realizări pe care le consideraţi excelente (dacă este cazul)**

Institutul Astronomic are 3 cercetatori asociati la IMCCE (Observatorul din Paris, Franta), precum si 3 cercetatori asociati la Universitatea Centrala din Lancashire (Anglia). Cercetatorii din cadrul Institutului Astronomic au efectuat in anul 2014 5 stagii de lucru la Max Planck Institut fuer Kernphysik, Heidelberg, Germania, 5 stagii de lucru la IMCCE/Observatorul Paris si un stagiu de lucru la ENO/Teide, Spania. In vederea cresterii calitatii stiintifice a cercetarilor observationale nationale, in cadrul Institutului, in anul 2014 au fost studiate 2 locatii (de mare si mica altitudine) pentru amplasarea instrumentatiei astronomice din tara in conditii astroclimatice bune. Dintre acestea, situl de 1000mp aflat pe domeniul Academiei Romane din Comuna Berthelot (sit de mica altitudine ~500m) a fost luat in comodat pe 49 de ani. In acest sit s-au incepu studiile de astroclimat si urmeaza a fi realizate in anul 2015 studiilor de fezabilitate pentru instalarea unor telescoape mobile aflate in dotare: telescop de seeing si telescop de 40cm

In paralel, in vederea cresterii calitatii stiintifice a cercetarilor proprii a fost accesata intensiv si baza observationala internationala de mare apertura: telescoape de la sol din clasa 2-8m. radiotelescoape, instrumemtatie in IR, UV, X, Gamma, corpusculara, precum si telescoape spatiale. S-au efectuat observatii astronomice directe din Bucuresti utilizand telescopul de 3m IRTF/NASA/Hawaii/US prevazut cu un sistem propriu de remote control Bucuresti-Mauna Kea/Hawaii. Au fost efectuate observatii astronomice la peste 20 de alte mari instrumente astronomice din lume, printre care: telescoapele INT si OGS din Canare/ENO/Spania, telescopul de 2m de la Pic-du-Midi/Franta, Anglo-Australian Telescope, GALEX (Galaxy Evolution Explorer), Herschel Space telescope, GMRT (Giant Metrewave Radio Telescope), XMM-Newton Space Observatory, Sloan Digitakl Sky Survey Telescope, VST (VLT Survery Telescope), CFHT (Canada-France-Hawaii Telescope), UKIRT (United Kingdom Infrared Telescope), VISTA (The Visible and Infrared Survey Telescope for Astronomy), WISE (Wide-field Infrared Survey Explorer, ASKAP (Australian Square Kilometre Array Pathfinder), HST (Hubble Space Telescope), HESS (High Energy Stereoscopic System), FERMI Gamma-ray Telescope, Telescopul Stratosferic SOFIA.

**8. Premii internaţionale/naţionale (ale Academiei Române) obţinute de cercetătorii din Academia Română (autori, lucrări):** 5

Premierea rezultatelor cercetarii – articole 2014 la UEFISCDI: 5 articole.

**9. Cooperări ştiinţifice naţionale şi internaţionale, inclusiv în proiecte (cu mentionarea numărului de proiect şi a partenerilor):** 19 dintre care 9 programe extrabugetare, precum si participarea la 7 mari consortii stiintifice internationale.

**Programe extrabugetare de cercetare:**

**Obtinute in strainatate**

1. Contract ESA “Parteneriat cu Institutul Belgian de Aeronomie

Spatiala*”,* Program ESA,Contract *P2-SWE-VI SSCC Operations and Enhancements*

**Obţinute din ţară**

2. Proiect in cadrul Programului Capacitati din PNII – Colaborare bilaterale

Romania – Franta 2014-2016 “*Fizica si astrometria obiectelor din Sistemul*

*Solar*” contract nr 769.24.04.2014

3. Contract PN-II-RU-TE-2011-3-0163, *”Studiul proprietăţilor fizice*

*ale corpurilor din Sistemul Solar”*

4. Proiect ESA/STAR, Contract 210/01.07.2012, “*Sistem de Observare*

*a Orbitelor Terestre Medii şi Înalte Bazat pe Stereoviziune”*

*(Automatic Medium and High Earth Orbit Observation System Based*

*on Stereovision - AMHEOS)*

5. Proiect strategic ESA-STAR, “*Participation to the scientific ESA*

*Programmes*”, Contract 1 / 22 .10. 2012

6. Proiect ESA/STAR, Contract ID67 nr 42/19.11.2012, "*Modelarea*

*dinamicii si compozitiei* *asteroizilor geo-intersectori*"

7. Proiect ESA/STAR, Contract ID216 nr79,/29.11.2013, “*Platforme*

*astro-geodezica pentru determinarea cu inalta acuratete a geoidului*“

8. Contract POSDRU/159/1.5/S/137516, “*Sistem Multiapertură şi*

*Multispectral pentru Supraveghere Spaţială*”

9. FP7/ASTRONET  “*Integrating and strengthening the European*

*Research Area*”, ERA-NET, Coordination and Support Action for

Large Telescopes,  Coordinating Strategic Planning for European

Astronomy, Contract no. 262162.

**Programe prioritare de cercetare in astronomie (participarea la**

**mari consortii interntionale in domeniul astronomiei):** 7

1) "*NASA Kepler Space Mission, Working Group 3.2.: Excitation and Dumping for Beta Cephei Star*", International Consortium KEPLER/KASC

2) “*ESA* *GAIA Space Mission, Coordination Unit CU9*”, Gaia/DPAC (Data Processing and Analysis) International Consortium

3) “*GAIA Science Alerts Working Group*”, GSA-Working Group 2: Cataclysmic Variables (CVs) and X-ray binaries (XBs)

4) Contract ESA 2014 - Parteneriat cu Inst. Belgian de Aeronomie Spatiala: *P2-SWE-VI SSCC Operations and Enhancements*

5) “*Project DWARF - Eclipsing binaries as precise clocks to discover exoplanets*”, International Observing Campaign

6) Consortiului international *GAMA* (Galaxy and Mass Assembly)

7) Consortiului international *H-ATLAS si HiGAL*

**Cooperari internationale bilaterale**

8) Proiect in cadrul Programului Capacitati din PNII – Colaborare bilaterale Romania – Franta 2014-2016 “*Fizica si astrometria obiectelor din Sistemul Solar*” contract nr 769.24.04.2014

**Cooperari inter-academice:**

9) Proiect Nr. B1 - Partener Academia Bulgara de Stiinte: "*Extinderea sistemului de reper ICRF prin astrometrie CCD.* "

10) Proiect Nr. B4 - Partener Academia Bulgara de Stiinte: "*Bază de date pentru plăci de camp larg: Digitizarea arhivelor de plăci fotografice existente la Bucuresti şi Cluj*."

**Vizitatori din străinătate:** 5

**10. Conferinţe/sesiuni ştiinţifice organizate de secţie:** 6 in domeniul astronomiei**:**

**Manifestări cu participare internaţională**

1. Simpozionul Internanional Astronomul Nicolae Donici - 140 de ani de la naştere

Bucuresti, 8 septembrie 2014

1. ASTRONET Conference

Bucuresti, 19 noiembrie 2014

3. Symposium *Challenges in Astronomy, Astrophysics and Space Science*

Zilele Academice Clujene 2014, Cluj-Napoca, România, 29-30 Mai 2014

**Manifestări organizate in cooperare de Institutul Astronomic în anul 2014**

4. EWASS 2014, European Week for Astronomy and Space Science, *SM 3 Inter-, multi- and transdisciplinarity in astronomical education*, Geneva, 30 June – 4 July 2014,

5. BiDS – Big Data from Space, ESRIN Italy, 12-14 November 2014, member SOC,

6. Workshop on Astrometry and Photometry of Asteroids August 4-9, Akdeniz University, Turquie, member SOC & 16 hours of lectures

**11.Concluzii şi propuneri.**

Pentru continuarea activităţii in domeniul astronomiei, cel puţin la nivelul de până acum, ar fi necesare chiar în condiţiile grave ale restricţiilor actuale, precum si conform bugetului propus pe anul 2015:

* asigurarea unui fond de salarii corespunzator, de investiţii şi de întreţinere a locatiilor si a bazei astronomice nationale (unicat la nivel national);
* asigurarea unor fonduri de cercetare necesare pentru accesarea bazei observationale astronomice de varf europene si mondiale (care sa suplineasca lipsa de instrumentatie astronomice de varf din Romania sau romaneasca);
* asigurarea minimului de buget academic necesar participării la reuniuni internaţionale de inalt nivel stiintific din domeniul astronomiei. Si in special pentru a asigura reprezentarea Romaniei la Congresul Uniunii Astronomice Internationale (UAI General Assembly) care se va tine in anul 2015 in Honolulu, Hawaii/US.

**Anexa 2**

**Anexa 2**

**TABEL**

**cu rezultatele institutelor Academiei Romane in 2014**

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| Nr  cercet. | Cond.  doct. | Dr. | Drd. | Post-  Doc. | Reviste  ISI  străină-  tate | Reviste  ISI  România | Reviste  România  B+ | în  străinăt. | EAR | în  ţară | în  străinăt. | în  AR |
| 1 | **Institutul Astronomic** | 33 | 2 | 21 | 6 | 1 | 12 (FI>2)  9  (FI<2) |  |  |  | 2 | 1 |  |  | 344  (FI>2)  157  (FI<2) | 6 | 5 |  |
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|  | **TOTAL** | **33** | **2** | **21** | **6** | **1** | **21** |  |  |  | **2** | **1** |  |  | **501** | **6** | **5** |  |