

September 1, 2002

**ICQ8 – Final Programme – Version 3.0**

**Note :** The Final Programme consists of 70 – Oral Presentations and 75 – Poster Presentations, \* indicates – 30 minutes allotment, the rest are 20 minutes. As there are no parallel sessions, some latitude with time exists. Any further changes will be announced only at the conference time.

**EIGHTH INTERNATIONAL CONFERENCE ON QUASICRYSTALS**

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**Saturday September 7, 2002**

**Pre-conference Excursions to Mysore & Belur – arranged by ICQ-8**  
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**Sunday**

**September 8, 2002                      18.00                      Registration & Welcome Party**  
**at Hotel Le Meridien**

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**Monday**

**September 9, 2002**

Venue : National Science Seminar Complex, Indian Institute of Science

**9.00 AM Opening Ceremony**

Welcome	S Ranganathan Cochair, ICQ-8
Inauguration	P Ramachandra Rao Vice Chancellor, Banaras Hindu University & President, Indian Institute of Metals
Address by Guest of Honour	R Chidambaram Principal Scientific Advisor, Govt of India
Address	Patricia Thiel Iowa State University, U S A
Presidential Address	Goverdhan Mehta Director, Indian Institute of Science
Vote of thanks	K Chattopadhyay Cochair, ICQ-8

**9.30 AM Inaugural Session I TWO DECADES OF QUASICRYSTALS - I**

- \*112. Stable quasicrystals and approximants in the Cd and Ag-In Systems:Revisit to Hume-Rothery rules  
*A.P. Tsai , J.Q. Guo and H. Takakura*
- \*114. Structurally complex alloy phases  
*Knut Urban*

### 10.30 Coffee

### 11.00 AM Inaugural Session II TWO DECADES OF QUASICRYSTALS -II

- \*101. Quasicrystal structure analysis, a never ending story?  
*Walter Steurer*
- \*143. Cluster disordered glue model and the role of glue atoms in stabilizing the quasicrystalline structure  
*R. Chidambaram, P.Modak, R.S.Rao and B.K. Godwal*
- \*155. Electronic properties of quasicrystals – Why is less more?  
*T. V. Ramakrishnan*
- \*46. Crystallization of liquids and glasses to quasicrystals  
*K.F.Kelton*

### 13.00 LUNCH

### 14.00 Technical Session III Mathematics of Quasicrystallography and Tilings-I

- \*31. Random cluster covering model  
*Petra Gummelt*
- \*7. Constructing a dodecagonal structure by projection in two stages  
*S I Ben-Abraham, Y Lerer and Y Snapir*
- \*69. The mathematics of diffraction in aperiodic structures  
*Robert Moody*
- 93. Penrose tiling: A quasiperiodic lattice with fractal dimensions  
*Arvind Sinha, Deepan Sanyal and P. Ramachandrarao*
- 40. Linking aperiodic and periodic directions in decagonal quasicrystals  
*C. J. Jenks, J. Bjergaard, P. A. Thiel, P. Canfield, A. Cervellino, and W. Steurer*

### 16.10 POSTER SESSION I

### 18.00 High Tea

### 19.00 Cultural Programme

**Indian Classical Dance Recital by Ms. Malavika Sarukkai**

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**Tuesday**

**September 10, 2002**

**9.00 Technical Session – IV Synthesis – I**

- \*37. New group of stable icosahedral quasicrystals - structural properties and formation conditions  
*Tsutomu Ishimasa and Yasushi Kaneko*
- 8. Real time study of the growth of i-AlCuFe in very thin films obtained by simultaneous deposition of the components  
*Nathalie Bonasso and Philippe Pigeat*
- 18. Laser-induced self-propagating reaction synthesis of quasicrystals  
*Wang Cunshan, Gao Linhui, Li Gang, Wang Yanfang, Xia Yuanliang and Chuang Dong*
- 79. Formation and stability of nanoquasicrystalline phase in Al-Cu-Fe and Al-Cu-Co system by high energy ball milling  
*R. V. Koteswara Rao, N.K. Mukhopadhyay and B.S. Murty*
- 44. Formation condition of stable Cu-Ga-Mg-Sc icosahedral quasicrystal  
*Yasushi Kaneko, Ryo Maezawa and Tsutomu Ishimasa*

**10.50 Coffee**

**11.00 Technical Session V Electronic Properties**

- \*6. Electronic structure of quasicrystalline compounds  
*Esther Belin-Ferre*
- \*80. Studies of icosahedral AlPdRe quasicrystals across the metal-insulator transition  
*O. Rapp, V. Srinivas, P. Nordblad, and J. Poon*
- 23. A cross over from mott hopping conduction to Efros-Shklovskii hopping conduction in insulating Al-Pd-Re quasicrystals- a magnetoresistance study  
*H. C. Fang, T. I. Su, S. T. Lin, and R. Rosenbaum*
- \*58. Evidence for a marginally conducting state in AlFeCu and AlPdMn quasicrystals  
*D. Mayou*
- 128. Limited conductivity in an octagonal quasicrystal  
*Eeuwe Sieds Zijlstra*

**13.10 Lunch**

**14.00 Technical Session VI Structurally Complex Intermetallics**

- \*53. Hume-Rothery controlled formation of structurally complex alloy phases in the ternary Ga-Mg-Pd system  
*Guido Kreiner, Yuri Moguilnikov, Ulrich Burkhardt and Melanie Schäpers*

- 158. From approximants to quasicrystals - are there any fundamental differences  
*Xiaodong Zou and Sven Hovmöller*
- \*65. Interpretation of the Hume-Rothery rule in quasicrystals and their approximant  
*Uichiro Mizutani, Tsunehiro Takeuchi and Hirokazu Sato*
- 35. Ab initio studies on chemical bonding in Cd- and Zn-based quasicrystals  
*Y.Ishii and T.Fujiwara*
- 137. Crystal Structure of a 2/1 cubic approximant in the Al-Rh-Si system  
*K. Sugiyama, W. Sun and K. Hiraga*

**16:00 Cofee**

### **16.30 Technical Session VII Mechanical Properties**

- \*159. Plastic deformation of binary icosahedral quasicrystal of Cd-Yb  
*Y. Imai, T. Shibuya, R. Tamura and S. Takeuchi*
- 61. Temperature dependence of dislocation processes during plastic deformation of i-Al-Pd-Mn single quasicrystals  
*Ulrich Messerschmidt, Lars Ledig, Martin Bartsch, Michael Feuerbacher and Knut Urban*
- 47. Precipitates in a Mg-Zn-Y alloy reinforced by an icosahedral quasicrystalline phase  
*I. J. Kim, D. H. Bae and D. H. Kim*
- \*165. Sliding on a quasiperiodic substrate  
*T. Janssen*

**18.10 Session Ends**

**19.00 Banquet at Windsor Manor**

**Wednesday**

**September 11, 2002**

### **9.00 Technical Session VIII Surfaces**

- \*26. Nucleation and growth of metallic films on quasicrystalline surfaces  
*V. Fournée, T.C. Cai, A.R. Ross, T.A. Lograsso, J.W. Evans and P.A. Thiel*
- 130. Epitaxy on quasicrystalline surfaces  
*Masahiko Shimoda*
- 24. Structural studies of the 10-fold surface of AlNiCo and Xe adsorption  
*N. Ferralis, E. J. Cox, K. J. Franke, M. Gierer, C. A. Muryn, G. Thornton, C. J. Jenks, I. Fisher, R. McGrath and R. D. Diehl*

- 14. Cleaved surfaces of d-AlNiCo and x'-AlPdMn  
*C. Cecco, C. Barth, P. Gille, M. Feuerbacher, G. Krausch and M. Reichling*

### 10:30 Coffee

### 11.00 Technical Session IX Quasicrystals and Glasses

- \*33. Resonances based on momentum and angular momentum the driving structure forming processes of amorphous and quasicrystalline systems  
*P. Häussler and J. Barzola-Quiquia*
- \*96. Synthesis route dependence of metastable quasicrystal phase formation from metallic glasses  
*D. J. Sordelet, E. Rozhkova, M. F. Besser and M. J. Kramer*
- \*74. Glass forming ability and crystallization behavior in Ti-Zr-Cu-Ni-Be alloys  
*J. M. Park, Y. C. Kim, J. H. Jun, D. H. Bae, W. T. Kim and D. H. Kim*
- \*52. Icosahedral short range order in Zr-based metallic glasses  
*M. J. Kramer, M. F. Besser, N. Yang, E. Rozhkova and D. J. Sordelet*

### 13.00 Lunch

### 14.00 Technical Session X Electronic and Dynamic Properties

- \*51. Covalent bonding and band-gap formation in Al--transition-metal quasicrystalline approximants  
*M. Krajci and J. Hafner*
- \*70. Electrons in quasiperiodic tilings under magnetic field  
*Julien Vidal and Rémy Mosseri*
- \*9. Experimental study of the dynamics of icosahedral phases  
*M. de Boissieu, K. Shibata, R. Currat, A.P. Tsai, A. Baron and Y. Tanaka*
- \*28. Molecular dynamics simulations of decagonal Al-Co-Ni  
*Franz Gähler and Silvia Hocker*

### 16.00 Coffee

### 16.30 Technical Session XI Phase stability

- 16. Swift heavy ion irradiation on Al<sub>62</sub>Cu<sub>25.5</sub>Fe<sub>12.5</sub> quasicrystals  
*Ratnamala Chatterjee and A. Dunlop*
- 107. Order-disorder transition in cubic Cd<sub>6</sub>Yb and Cd<sub>6</sub>Ca  
*R. Tamura, Y. Murao, S. Takeuchi, M. Ichihara, K. Suzuki and K. Edagawa*
- 75. Initial oxidation of quasicrystals - an investigation by high-resolution RBS and ERD  
*D. Plachke, A. Khellaf, and H.D. Carstanjen*

### 17.30 Session Ends

## 19.00 Poster Session II

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Thursday

September 12, 2002

### 9.00 Technical Session XII Magnetism

- 27. Long range antiferromagnetic order in Ising model simulations in two-dimensional Penrose lattice  
*Shoji Fujiwara, Susumu Matsuo, Hiroshi Nakano and Tsutomu Ishimasa*
- \*20. Magnetism in quasicrystals  
*Janez Dolinsek*
- 34. Universal magnetic behaviour of icosahedral, F2 and F2M Al-Pd-Mn quasicrystals  
*F.Hippert, M.Audier, J.J.Prejean, A.Sulpice, V.Simonet and Y.Calvayrac*
- 71. Magnetic and electrical properties of Zn-Mg-Sc icosahedral quasicrystals  
*Senni Motomura, Yasushi Kaneko, Shiro Kashimoto, Hiroshi Nakano, Tsutomu Ishimasa and Susumu Matsuo*
- 99. Magnetoresistance of insulating AlPdRe quasicrystals  
*V. Srinivas, O. Rapp and S. J. Poon*

10.50 Coffee

### 11.20 Technical Session XIII Synthesis –II

- 73. Synthesis and characterization of Al- Al<sub>65</sub>Cu<sub>20</sub>Fe<sub>15</sub> quasicrystalline particulate composites  
*N.K.Mukhopadhyay, S.K.Sahu, J.P.Pathak and R.K.Mandal*
- \*94. Formation of icosahedral quasicrystalline phase in Al-rich Al-Mn-Be alloys  
*E. Fleury, G.S. Song, H. J. Chang, S.H. Kim, M.H. Lee, W.T. Kim and D.H. Kim*
- 110. Interplay between medium range order and transition-metal effects in aluminium rich quasicrystals and related phases  
*G.Trambly de Laissardiere, D. Nguyen-Manh and D. Mayou*
- \*29. Ti-Zr-Ni and Ti-Hf-Ni quasicrystals and approximants as hydrogen storage alloys  
*P. C. Gibbons, V. T. Huett, R. G. Hennig and K. F. Kelton*

13.00 Lunch

### 14.00 Technical Session XIV Surfaces II

- \*22. Wetting on quasicrystals in ambient air  
*Jean-Marie Dubois*

- 55. Bulk termination of the icosahedral Al<sub>70</sub>Pd<sub>21</sub>Mn<sub>9</sub> surface  
*J. Ledieu, E.J. Cox, Z. Papadopolos, G. Kasner, Q. Chen, N.V. Richardson, R.D. Diehl, T.A. Lograsso, A.R. Rose and R. McGrath*
- \*59. Quasicrystal surfaces: structure and potential as nanotemplates.  
*R. McGrath, J. Ledieu, E.J. Cox and R.D. Diehl*
- 140. Atomic and electronic structure of ksi'-Al-Pd-Mn approximant and i-Al-Pd-Mn quasicrystal surfaces  
*D. Naumovic, P. Aebi, M. Bovet, F. Clerc, C. Koitzsch, L. Schlapbach, C. Beeli, K. Kunze, T. A. Lograsso, D. W. Delaney, A. R. Ross*

**15:40 Coffee**

**16.00 Technical Session XV Characterization**

- \*1. Anomalous Debye-Waller factors and local electronic structures of decagonal Al-Ni-Co studied by atomic-resolution ADF-STEM with EELS  
*Eiji Abe, S. J. Pennycook and A. P. Tsai*
- 133. Structure analysis of i-CdYb quasicrystals  
*H. Takakura, M. de Boissieu, A. Yamamoto and A. P. Tsai*
- \*86. ALCHEMI studies on Al-Ni-Co decagonal quasicrystals  
*Koh Saitoh, Michiyoshi Tanaka and An Pang Tsai*
- 89. Inelastic neutron scattering study of the dynamics of Al<sub>9</sub>Co<sub>2</sub>  
*M. Scheffer and J.-B. Suck*
- 32. High pressure mössbauer studies of stable quasi-crystals AlCuFe  
*Ajay Gupta, Neelima Paul, V. Vijaykumar and B.K. Godwal*

**18.00 Session ends**

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**Friday**

**September 13, 2002**

**9.00 Technical Session XVI Phase Stability II**

- 129. Role of planar defects and their energies in periodic to quasiperiodic transformations - A monte carlo simulation  
*U.D. Kulkarni*
- \*142. Energy vs Entropy stabilization of quasicrystals  
*M. Vijayalakshmi*
- 21. Composition rules based on clusters for quasicrystals  
*Chuang Dong, Jianbing Qiang, Yingmin Wang, Xiaodong Wang, Min Qi and Pat Thiel*
- 123. Effect of Cu substitution in AlCoNi decagonal system  
*T.P. Yadav, R.S. Tiwari and O.N. Srivastava*

**10:30 Coffee**

**11.00 Technical Session XVII Mathematics of Quasicrystallography and Tilings II**

- \*62. Monte carlo energy-based refinements of decorated tiling quasicrystal models  
*M. Mihalkovic, C. L. Henley, M. Widom*
- \*113. Average unit cell for square fibonacci tiling  
*Grzegorz Urban and Janusz Wolny*
- \*120. Tile hamiltonians for decagonal quasicrystals  
*M. Widom, I. Al-Lehyani, C.L. Henley, M. Mihalkovic and S. Naidu*

**12.30 Closing Session**

**13.00 Lunch**

**14.00 Half Day Excursion**

**Bangalore Sight seeing**

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**Saturday September 14 & Sunday September 15**

**Full Day Excursions to Mysore or Belur - arranged by ICQ-8**

**Posters Sessions Monday September 9 & Wednesday September 11**

- 3. NMR investigations of atomic motion in quasicrystals  
*T. Apih, P. Jeglic, and J. Dolinsek*
- 4. Tilings colourful --- only even more so  
*Michael Baake, Uwe Grimm and Max Scheffer*
- 5. Deformation behavior of in-situ composites reinforced by approximant particles in Al-Cu-Mg-(Ti) alloys  
*D. H. Bae, D. Y. Kim, G. S. Song, W. T. Kim and D. H. Kim*
- 10. Phasons fluctuations in icosahedral phases  
*M. de Boissieu, H. Takakura and A.P. Tsai*
- 11. Oxidation kinetics of AlCuFeCr approximant compounds: a laser ellipsometric study  
*G. Bonhomme, M. LeMieux, P. Weisbecker, V. V. Tsukruk and J. M. Dubois*
- 12. Phonon dispersion curves of icosahedral Al-Pd-Mn and Mg-Zn-Y quasicrystals  
*R.A.Brand, J.Voss, F.Hippert, M.Krisch, Sterzel and I.R.Fisher*
- 13. Friction and fretting on quasicrystals under vacuum  
*Pierre Brunet, Andreas Metstallinger and Jean-Marie Dubois*



- 15. Studies of the pseudo-tenfold surface of an  $x'$ -AlPdMn approximant  
*C. Cecco, K. J. Franke, W. Theis, M. Feuerbacher, k.-H. Rieder, and G. Krausch*
- 25. The toughening of Al-Cu-Fe(-B) quasicrystals by Sn particles  
*E. Fleury, Yu-Chan Kim, Do-Hyung Kim, Do-Hyang Kim, and Won-Tae Kim*
- 36. Structure analysis of Zn-Mg-Ho(Y) icosahedral quasicrystals by modified rietveld method using ellipsoid and sphere windows  
*Tsutomu Ishimasa, Kei Oyamada, Yasuomi Arichika, Eiji Nishibori, Masaki Takata, Makoto Sakata and Kenichi Kato*
- 38. Magneto-resistance studies in Al<sub>70</sub>Pd<sub>20+x</sub>Mn<sub>10-x</sub> (x=0,1) icosahedral quasicrystal  
*Archna Jaiswal, R. Rawat and N. P. Lalla*
- 39. Influence of alloying on the formation of Zr-based quasicrystals  
*R. Janlewing, D. Zander, L. Jastrow, L. Lyubenova, V. Khare and Uwe Köster*
- 41. Surface studies of quasicrystalline Al-Pd-Mn by angle resolved low energy ion scattering  
*C.J. Jenks, P.A. Thiel, A.R. Ross, T.A. Lograsso, J.A. Whaley, and R. Bastasz*
- 43. Thermal properties of a 1D interface with a quasiperiodic potential  
*H.T.Jeong, H.-C.Jeong and D.H.Kim*
- 45. HRTEM observations of thermally-induced tile rearrangements in Al-Cu-Co(-Si) decagonal quasicrystals  
*Edagawa Keiichi, P. Mandal, K. Suzuki, T. Hashimoto, K. Hosono, R. Tamura and S. Takeuchi*
- 48. Phason-elastic energy in a model quasicrystal  
*Ulrich Koschella, Franz Gähler, Johannes Roth and Hans-Rainer Trebin*
- 49. Electrical resistivity measurement of the Al<sub>65</sub>Rh<sub>27</sub>Si<sub>8</sub> cubic approximant  
*Naokiyo Koshikawa, Shinichi Yoda, K. Keiichi Edagawa, Ryuji Tamura and Shin Takeuchi*
- 50. Electronic structure and conductivity scaling of quasiperiodic approximants of decagonal aluminium  
*M. Krajci and J. Hafner*
- 54. Estimation of gibbs free energy difference in bulk glass forming (BMG) alloys  
*Kirit N. Lad, K. G. Raval and Arun Pratap*
- 56. Composite coating of Al-Cu-Fe-X (X=Si, B) quasicrystalline and WC-Co mixed powders  
*S. M. Lee, B. M. Moon, E. Fleury, D. H. Kim and W. T. Kim*

- 63. Phase equilibrium in the vicinity of the Al-Ni-Ru decagonal phase  
*S. Mi, B. Grushko, C. Dong and K. Urban*
- 64. Amorphous to icosahedral phase transformation in rapidly quenched Al-Cu-V and Al-Cu-Ti alloys  
*D.K.Misra, R.S.Tiwari and O.N.Srivastava*
- 68. Corrosion and oxidation behaviour of amorphous and nanocrystalline states in Zr<sub>70</sub>Pd<sub>30</sub> and Zr<sub>80</sub>Pt<sub>20</sub> alloys  
*K. Mondal, U. K. Chatterjee and B.S. Murty*
- 72. High energy ball milling of Al<sub>65</sub>Cu<sub>20</sub>Fe<sub>15</sub> quasicrystalline alloy  
*N.K.Mukhopadhyay, Vinod Kurup, V.C.Srivastava, P.B.Joshi and R.K. Mandal*
- 77. Structure defects of icosahedral quasicrystal as electrically active centres  
*A. F. Prekul, N. Yu. Kuz'min, N. I. Shchegolikhina*
- 78. Quasicrystals in Ti-Zr-Ni alloy system  
*J.B.Qiang, Y.M.Wang, D.H.Wang, C.H.Liu and C.Dong*
- 81. Synthesis and characterization of single grain Cd-Yb icosahedral phase  
*A. R. Ross, M. J. Kramer and T. A. Lograsso*
- 82. Crack propagation of quasicrystals and random tilings  
*Christoph Rudhart, Hans-Rainer Trebin and Peter Gumbsch*
- 83. EXAFS study of hydrogenation in Ti-Zr-Ni and Ti-Hf-Ni quasicrystals and approximants  
*A. Sadoc, E. H. Majzoub, V. T. Heutt and K. F. Kelton*
- 84. Formation of quasicrystalline related intermetallic compounds in conventionally cast Al-Fe-V-Si alloys  
*K. L. Sahoo, S. Das and B. S. Murty*
- 85. Structural changes of Ni-rich Al-Co-Ni decagonal quasicrystals  
*K. Saito, T. Ohsuna, W. Sun and K. Hiraga*
- 87. Microstructural Studies on Zr<sub>69.5</sub>Cu<sub>12</sub>Ni<sub>11</sub>Al<sub>7.5</sub>  
*R. T. Savalia, G. K. Dey, P. Mukhopadhyay and S. Banerjee*
- 88. A comparative study of the atomic dynamics of decagonal and icosahedral AlPdMn  
*M. Scheffler and J.-B. Suck*
- 90. Tribological behavior of plasma sprayed Al-Cu-Fe + Sn QC composite coatings  
*Tianmin Shao, Xiankun Cao and Eric Fleury*

- 91. A local approach of magnetism in icosahedral Al-Pd-Mn phases through nuclear magnetic resonance studies  
*V.Simonet, F.Hippert, C.Berger and Y.Calvayrac*
- 92. Kolakoski sequences --- an interesting model of aperiodic order  
*Bernd Sing*
- 95. Surface microthermal diffusivity behavior of single grain Al-Ni-Co decagonal quasicrystals  
*D. J. Sordélet, V. Tsukruk, M. Lemieux, B. Cook and P. Canfield*
- 97. Magnetic behaviour of metastable binary Pd-Zr alloys  
*V. Srinivas, Aparna Roy and B.S. Murty*
- 98. Oxidation behaviour of AlCuFe nanoquasicrystalline powder  
*V. Srinivas, P. Barua, T.B. Ghosh and B.S. Murty*
- 100. Microstructural phase transformations from crystalline to quasicrystalline structures on annealing in Al / Mn multilayers  
*A.K. Srivastava, K. Yu-Zhang, L. Kilian, J. M. Frigério, J. Rivory*
- 102. Investigations on the formation of quasicrystalline phases in the immiscible copper-iron system by mechanical alloying  
*R. Subramanian, P.Shankar, S.S.Ramakrishnan and P.C.Angelo*
- 103. Al-Ni-Ru icosahedral quasicrystal and coexisting decagonal quasicrystals with 0.4 nm periodicity, studied by atomic-resolution electron microscopic observations  
*Wei Sun and Kenji Hiraga*
- 104. Phase stability and electron transport properties of Cd-Y-Yb quasicrystal and 1/1-1/1-1/1 approximant  
*H. Takahashi, T. Takeuchi, U. Mizutani, J. Q. Guo and A. P. Tsai*
- 105. Hydrogenation of Ti-Zr-Ni quasicrystals synthesized by mechanical alloying  
*Akito Takasaki, V. T. Huett, and K. F. Kelton*
- 106. Structure analysis of the Al<sub>65</sub>Rh<sub>27</sub>Si<sub>8</sub> 2/1-2/1-2/1 approximant  
*Tsunehiro Takeuchi, Naokiyo Koshikawa, Eiji Abe, and Uichiro Mizutani*
- 111. Quantum dynamics in two and three dimensional quasiperiodic lattices  
*F. Triozon, J. Vidal, R. Mosseri and D. Mayou*
- 116. Electronic conductivity of quasicrystals at low temperatures in the framework of fractional Fermi surface model  
*Yu. Kh. Vekilov and E. I. Isaev*
- 121. Two-dimensional quasicrystals and their unit cells  
*Janusz Wolny and Bart<sup>3</sup>omiej Kozakowski*

- 122. Synthesis of nano-quasicrystalline Al<sub>70</sub>Ni<sub>15</sub>Co<sub>15</sub> decagonal phase through high energy ball milling  
*T.P.Yadav, N.K.Mukhopadhyay and O.N.Srivastava*
- 124. Magnetic and electrical properties of Cu-Ga-Mg-Sc icosahedral quasicrystals  
*Hidetoshi Yamada, Senni Motomura, Ryo Maezawa, Hiroshi Nakano, Tsutomu Ishimasa and Susumu Matsuo*
- 125. Structure refinement of i-Al-Pd-Re quasicrystals by synchrotron radiation data  
*A. Yamamoto, H. Takakura, T. Ozeki, A. P. Tsai and Y. Ohashi*
- 126. Hydrogen induced transformations in Zr-Cu-Ni-Al quasicrystals  
*Daniela Zander, Varsha Khare and Uwe Köster*
- 127. Stability and phase boundaries of icosahedral phase and f-Al<sub>10</sub>Cu<sub>10</sub>Fe<sub>1</sub> phase in the Al-Cu-Fe system  
*Liming Zhang, Reinhard Lueck*
- 131. Vacancy ordered phases in Al-Cu-Ni as average lattices  
*Anandh Subramaniam and S.Ranganathan*
- 132. Structural stability of Al-Co-Cu-Ni decagonal phase  
*A.K.Pramanick, R. K. Mandal and G. V. S. Sastry*
- 134. Z-contrast observation of icosahedral quasicrystals and approximant crystals  
*Eiji Abe, S. J. Pennycook and A. P. Tsai*
- 135. Synthesis of (Al<sub>65</sub>Cu<sub>20</sub>Fe<sub>15</sub>)<sub>100-x</sub>Si<sub>x</sub> quasicrystals by mechanical alloying  
*B. S. Murty, P. Barua and V. Srinivas, F. Schurack and J. Eckert*
- 136. Arctic octahedron in three-dimensional rhombus tilings and related integer solid partitions  
*Nicolas Destainville, Mike Widom, Remy Mosseri and Francis Bailly*
- 138. Quasicrystal strengthened magnesium alloys by extrusion  
*Alok Singh, A. P. Tsai and M. Nakamura*
- 139. Thermoelectric properties of Al-based icosahedral quasicrystals and approximants  
*Tomohiro Nagata, Kazuhiro Kiriwara, Atsushi Yamaguchi and Kaoru Kimura*
- 144. A comparative study of the atomic dynamics of icosahedral and decagonal ZnMgY  
*J. B. Suck, M. Scheffer and R. Sterzel*
- 145. Quasicrystalline and crystalline phases in an Al - Pd - Mn - Fe alloy  
*R Divakar, E Mohandas and V S Raghunathan*

- 147. Al-Cu-Fe quasicrystalline coating on Al and Cu substrates by laser cladding  
*Krishanu Biswas, G. Phanikumar, R.Galun, B.L.Mordike and K.Chattopadhyay*
- 148. Growth of quasicrystals in space:possible fallouts and the Indian experiment  
*S.C. Sharma, K.Suseelan Nair, M.C.Mittal, P. Ramachandra Rao and K. Chattopadhyay*
- 151. Preparation of novel raney copper catalysts from Al-Cu-Fe-(Zn, Ce) quasicrystals  
*An Pang Tsai and Michiaki Yamasaki*
- 154. Observation of pseudo-gap and kondo behaviour in  $Al_{70}Pd_{30-x}Mn_x$  quasicrystals  
*Gayathri N. Banerjee, S. Banerjee and R. Goswami*
- 156. SEM and AFM studies of 5-fold surface of AlPdMn quasicrystal subjected to UHV treatment  
*Yu Fuxiao, Maarten Bischoff, Amy R. Ross, Thomas A. Lograsso, Yvonne Calvayrac, Herman van Kempen and Ted Janssen*
- 157. Magnetic properties of  $Al_{70-x}Pd_{15}Mn_{15}M_x$  ( $M=B, Si, Ge; 0 \leq x \leq 8$ )  
*D. Bahadur and R. A. Dunlap*
- 160. Electronic transport of the icosahedral Zn-Mg-Sc quasicrystal and its cubic approximant  $An_{17}Sc_3$   
*J. Hasegawa, R. Tamura and S. Takeuchi*
- 162. A basis for classification of quasicrystals  
*H. S. Jeevan and S. Ranganathan*
- 164. Icosahedral structures and helices in gamma-brass structure  
*E. Lord and S. Ranganathan*
- 166. On the formation and morphology of quasicrystalline  $T_2$  phase in artificially aged Al-Li-Cu-Mg-Zr alloy  
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