

Bad Liebenzell Workshop on Neutrino Masses in the sub-eV Range

Friday - January, 19, 2001

| | | | | |
|----------------------|----------------------|---------|--|----------------------|
| 08:30 | <i>Organizers</i> | 20' | Welcome and Introduction | |
| Session – 1 : | | | Neutrino physics and tritium β-decay | 08:50 – 11:25 |
| 08:50 | <i>M. Lindner</i> | 45'+10' | Current status of neutrino physics | |
| 09:45 | <i>V. Lobashev</i> | 30'+5' | The Troitsk Experiment | |
| 10:20 | | 30' | <i>Coffee Break</i> | |
| 10:50 | <i>C. Weinheimer</i> | 30'+5' | The Mainz Experiment | |
| Session – 2 : | | | A sub-eV neutrino mass experiment | 11:25 – 14:50 |
| 11:25 | <i>G. Drexlin</i> | 30'+5' | A sub-eV neutrino mass experiment – I <i>introduction, motivation & overview</i> | |
| 12:00 | <i>J. Bonn</i> | 25'+5' | A sub-eV neutrino mass experiment – II <i>properties of a high resolution spectrometer</i> | |
| 12:30 – 14:00 | | 90' | Lunch Break | |
| 14:00 | <i>O. Kazachenko</i> | 20'+5' | A sub-eV neutrino mass experiment – III <i>tritium source designs</i> | |
| 14:25 | <i>K. Eitel</i> | 20'+5' | A sub-eV neutrino mass experiment – IV <i>detector concepts & ν-mass sensitivity</i> | |
| Session – 3 : | | | Neutrino mass and Particle-Physics | 15:20 – 16:35 |
| 14:50 | <i>B. Kayser</i> | 40'+5' | Models for Neutrino Masses | |
| 15:35 | | 15' | <i>Coffee Break</i> | |
| 15:50 | <i>A. Smirnov</i> | 40'+5' | Neutrino masses and mixing | |
| Session – 4 : | | | Neutrino mass and Cosmology | 16:35 – 18:05 |
| 16:35 | <i>G. Raffelt</i> | 40'+5' | Neutrino mass, Cosmology and Astrophysics | |
| 17:20 | <i>A. Hamilton</i> | 40'+5' | Neutrino mass and Cosmology | |
| 18:05 | | | <i>End of Sessions</i> | |
| 18:30 | | | <i>bus leaves for conference banquet</i> | |
| 19:00 – 22:30 | | | Conference Banquet | |

Saturday, January 20, 2001

Session – 5 : Precision tritium β -spectroscopy 08:30 – 10:00

| | | | |
|--------------|-------------------|--------|---|
| 08:30 | <i>W. Quint</i> | 20'+5' | ^3He -T mass difference measurements |
| 08:55 | <i>A. Saenz</i> | 30'+5' | Molecular final states (gaseous/solid) |
| 09:30 | <i>O. Dragoun</i> | 25'+5' | High precision electron spectroscopy |
| 10:00 | | 30' | <i>Coffee Break</i> |

Session – 6 : β -decay and new physics 10:30 – 12:30

| | | | |
|----------------------|----------------------|--------|--|
| 10:30 | <i>A. Fäßler</i> | 25'+5' | Neutrinomasses and supersymmetry |
| 11:00 | <i>B. McKellar</i> | 25'+5' | Probes of weaker interactions in β -decay |
| 11:30 | <i>J. Ciborowski</i> | 25'+5' | Tachyonic neutrinos and tritium β -decay |
| 12:00 | <i>J. Ng</i> | 25'+5' | Testing extra dimensions with tritium β -decay |
| 12:30 – 14:30 | | 120' | <i>Lunch Break</i> |

Session – 7 : Other Measurements of Neutrino Mass 14:30 – 16:15

| | | | |
|--------------|-------------------|--------|---|
| 14:30 | <i>E. Fiorini</i> | 30'+5' | Cryogenic detectors (Milano results) |
| 15:05 | <i>F. Gatti</i> | 30'+5' | Cryogenic detectors (Genoa results) |
| 15:40 | <i>A. Piepke</i> | 30'+5' | Present and future $\beta\beta$ experiments |
| 16:15 | | 15' | <i>Coffee Break</i> |

Session – 8 : Weak Interaction Studies 16:30 – 17:30

| | | | |
|--------------|---------------------|---------|---|
| 16:30 | <i>N. Severijns</i> | 25'+5' | Weak interaction studies at Isolde |
| 17:00 | <i>O. Zimmer</i> | 25'+5' | aSPECT – measurement of neutron asymmetry a |
| 17:30 | <i>H. Blümer</i> | 15'+05' | Remarks on future ν -mass measurements |
| 17:50 | | | <i>end of sessions</i> |
| 18:00 | | | <i>dinner at the Burg Bad Liebenzell</i> |

Sunday, January 21, 2001

Session – 9 : Double Beta Decay and ν -mass 08:30 – 10:00

08:30 *K. Zuber* 25'+5' ,Double beta decay' experiments at the ν -factory

09:00 *A. Dietz* 25'+5' GENIUS – physics perspectives and status

09:30 *F. Vissani* 25'+5' Non-oscillation searches of neutrino mass

10:00 30' *Coffee Break*

Session – 10 : Aspects of gaseous and solid tritium sources 10:30 – 11:45

10:30 *A. Osipowicz* 20'+5' Magnetic flux design and particle tracking

10:55 *R. Lässer* 20'+5' Tritium handling techniques at TLK

11:20 *P. Leiderer* 20'+5' Energy Losses in molecular tritium

11:45 *E.W. Otten* 15' Concluding Remarks

12:30 Lunch

14:00 **END OF WORKSHOP**