8th International Symposium on Symmetries in Subatomic Physics (SSP2022)

University of Applied Arts, Vienna
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Angela Gligorova[1], Claude Amsler[1],
Martin Simon[1] and Eberhard Widmann[1], Editors

[1]Stefan Meyer Institute for Subatomic Physics
Kegelgasse 27, 1030 Vienna, Austria

The International Symposium on Symmetries in Subatomic Physics (SSP) is a conference series initiated in 1994, devoted to recent accomplishments as well as future developments in fundamental symmetries, in atomic, nuclear and particle physics experiments and theory. The previous meetings were held in Taipei, Seattle, Adelaide, Groningen, Victoria and Aachen.

This 8th edition of the Symposium took place in Vienna from 29 August to 02 September 2022, after one-year delay due to the COVID pandemic. Organized by the Stefan Meyer Institute for Subatomic Physics (SMI) of the Austrian Academy of Sciences and hosted by the University of Applied Arts, the conference was held in-person to the great satisfaction of both participants and organizers.

The scientific program consisted of the following topics:

- Symmetries (C, P, T, CP, CPT, lepton flavour violation),
- Symmetries and Interactions (QED, QCD, Electroweak interactions, Lorentz invariance),
- Fundamental interactions,
- CKM matrix (light and heavy flavours),
- Future facilities,
- Application of new technologies.

As proposed by the International Advisory Committee the scientific program this year was more focused on fundamental symmetries and interactions in theory and laboratory experiments, when compared to previous editions, which also included topics such as Dark Matter and Cosmology. 74 participants from 15 countries attended the conference, and in total 51 invited and contributed talks, as well as 17 posters were presented, highlighting scientific achievements worldwide. The posters were refereed, and two prizes sponsored by the Nuclear Physics European Collaboration Committee (NuPECC) were awarded at a ceremony to Alexander Boeschoten from Van Swinderen Institute in Groningen for the poster *Understanding of Systematic Effects in eEDM Searches with diatomic molecules,* and Marlene Tüchler from the Stefan Meyer Institute for the poster *Kaonic Atom X-Ray Spectrocopy with the SIDDHARTA-2 Experiment*.

A public lecture which was supported by NuPECC and took place in the picturesque Festsaal of the Austrian Academy of Sciences was also part of the program. The talk entitled “The underground world of elementary particles” was given in German by Prof. Stefan Paul from the Technical University of Munich. As part of the social program the participants were offered a guided tour at the Museum of Applied Arts in Vienna (MAK).

The conference was also sponsored by FWF (Doktoratskolleg Particles and Interactions (DK-PI)) and L+H Vakuumtechnik. We wish to thank Ms. F. Boes, Ms. C. Dibold, and Ing. D. Pristauz-Telsnigg for assisting us with the organization of the event, the registration of participants, the coffee breaks and the design of the conference poster and booklet. We also thank the MAK museum and the artist Frederick Baker for the wonderful picture on the SSP2022 poster, which is part of his Virtual Reality Experience “Klimt’s magic garden”.

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Angela Gligorova

on behalf of the Editors

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