

W-249: Diffuse synchrotron radio emission in clusters of galaxies

The origin of diffuse synchrotron radio emission in clusters of galaxies - the largest and latest objects to form in the Universe - is still a puzzle after fifty years from the first discoveries. Thanks to the radio data provided by new instruments, such as LOFAR, we are revealing even further complexities challenging our "classical view". Bringing together 60 participants from theory, simulations and observations, and most world-wide experts on non-thermal emission in clusters, with more than fifty invited and contributed talks and ample discussion time, the workshop has been a success. Many new exciting results were present and discussed in detail. The exchange of ideas was productive and extremely timing giving the increasing new results coming from LOFAR and other SKA precursors, and is helping defining more clearly what theoreticians and simulators needs from observations, and vice versa, to bring us closer to a deeper understanding. Many participants approached the organisers during and after the workshop congratulating us for the idea and execution, and suggesting to repeat this event every few years - a clear indication that the goals of the workshop have been met successfully.