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Cosmology with radio telescopes: finding a needle in the datastack

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High performance computing (HPC) has been a crucial factor in the development of cosmology in the past few years. The tension between increasing precision and computing limitations drives a lot of our research work in the development of new algorithms. I will review the research done by my group in the context of HPC focusing on 3 main topics: 1) large scale simulations of the early Universe; 2) model fitting and 3) data processing, in particular with the radio telescopes installed in South Africa. I will conclude with an outlook of the future HPC needs for observational cosmology in South Africa.

Student or Postdoc?

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CHPC Research Programme

Workshop Duration

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