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Challenges and achievements in radiation studies: A path since 1988

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There has been a dramatic development in the atmospheric radiation studies since the last century impacting to the important fields of science and society. In this talk, I like to overview this development, reflected by my short research experience, struggling challenges to understand the radiative forcing and formation mechanism of aerosols and clouds since around 1988 when I started my research and visited Lille for the International Radiation Symposium. My talk will cover the early day developments of sky measurements, microphysical remote sensing of aerosols and clouds from ground-based and satellite measurements, theories of radiative transfer of the atmosphere-land-ocean system, and role of aerosol and cloud for climate formation. And the talk will be extended to my thoughts on the future promising research targets. I also like to present some snapshots of memorable interactions in the course of research with LOA people and world's friends and colleagues.

Keywords: radiation, aerosol, clouds, remote sensing, climate formation