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2004-2024-2044 The past, present and future of Computational Astrophysics

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Twenty years ago, I co-authored a review of computational astrophysics with Jon Hakkila and Derek Busazi. At the time, we were asked to speculate on where the field would go, from data analysis to simulation work, and what progress would be possible with increased computational power. Having been tasked with presenting a brief review of the current state-of-the-art in computational astrophysics for the CAP congress, I will use this overview to compare to our predictions of 20 years ago, and at the same time to make some predictions for the future. As you can likely imagine, a lot of what we predicted came true, especially in terms of how the field consolidated, but there are some real surprises in what we didn't see coming. The next twenty years is harder to predict, with radical changes coming to both algorithms and computational hardware, but I'll take the risk of outlining a few key paradigms that are likely to change how we do computational astrophysics in the long term.

Keyword-1

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Keyword-2

Computing

Keyword-3

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