# Closed-form solutions of spinning BBHs at 1.5PN (using action-angle variables)

Lecture Workshop (Univ. of Illinois Urbana-Champaign)

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# References

## • RESEARCH PAPERS

- The standard way of computing the solution (without 1PN part): <a href="https://arxiv.org/abs/1908.02927">https://arxiv.org/abs/1908.02927</a> Action-angle-based solution: <a href="https://arxiv.org/abs/2012.06586">https://arxiv.org/abs/2110.15351</a>

#### • LECTURE NOTES

- Lecture notes (latest): <a href="https://github.com/sashwattanay/lectures\_integrability\_action-angles\_PN\_BBH/blob/gh-">https://github.com/sashwattanay/lectures\_integrability\_action-angles\_PN\_BBH/blob/gh-</a> action-result/pdflatex/lecture\_notes/main.pdf
- Lecture notes (for citation purposes): <a href="https://arxiv.org/abs/2206.05799">https://arxiv.org/abs/2206.05799</a>

## MATHEMATICA PACKAGE

• <a href="https://github.com/sashwattanay/BBH-PN-Toolkit">https://github.com/sashwattanay/BBH-PN-Toolkit</a>

# YOUTUBE VIDEO

https://youtu.be/aoiCk5TtmvE

#### THE PRESENTATION

• <a href="https://github.com/sashwattanay/lectures\_integrability\_action-angles\_PN\_BBH/blob/main/UIUC\_workshop\_presentation/uiuc\_workshop\_presentation.pdf">https://github.com/sashwattanay/lectures\_integrability\_action-angles\_PN\_BBH/blob/main/UIUC\_workshop\_presentation/uiuc\_workshop\_presentation.pdf</a>