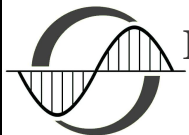




UNIVERSITÀ
degli STUDI
di CATANIA



DIPARTIMENTO DI FISICA E ASTRONOMIA
“ETTORE MAJORANA”

DOTTORATO DI RICERCA IN FISICA
CICLO XLII A.A. 2026/2027

Femtoscscopy and Two-Particle Correlations in Subatomic Physics

2 CFU

Teaching staff

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Reception hours:

Program of the course:

- Introduction to interferometry and heavy-ion collisions
- Two-particle correlations: intensity interferometry of emitting sources
- Complex fragment correlations
- Detectors and experimental techniques
- Resonance decays and correlations: nuclear thermometers and invariant mass spectroscopy

Bibliography:

Scientific paper and slides provided by the teacher

- R. Hanbury Brown and R. Q. Twiss, *Nature* 177, 27 (1956)
- G. Baym, *Acta Phys. Pol.* B29, 1839 (1998)
- M. Lisa et al., *Ann.Rev.Nucl.Part.Sci.*55:357-402 (2005)
- G. Verde et al., *Eur. Phys. Journal A*30, 81 (2007)
- S.E. Koonin, *Physics Letters B.* 70: 43-47 (1977)
- J. Pochodzalla et al., *Phys. Rev. C*35, 1695 (1987)
- W.P. Tan et al., *Phys. Rev. C* 69, 061304 (2004)
- Ad. R. Raduta et al., *Phys. Lett. B*705, 65 (2011)