



Comprehensive Test Report

Regression Tests • Benchmarks • Physics Diagnostics

Generated: 2026-02-18 19:04:04

VegasAfterglow 1.1.1.dev130 | Python 3.11.12

Commit: a30bf0b | Platform: Darwin arm64

CPU: Apple M2

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Section 1

Regression Tests

Power-law scaling verification against theoretical predictions

Regression Test Report Guide

This document describes the regression validation framework for VegasAfterglow, which verifies that simulation outputs reproduce the expected power-law scaling relations from GRB afterglow theory.

1. Test Categories

The regression suite validates physical quantities against analytical predictions derived from standard synchrotron afterglow theory. Tests cover both forward and reverse shocks:

Forward shock:

1. **Shock dynamics:** Lorentz factor, radius, magnetic field, particle number 2. **Characteristic frequencies:** v_m (injection), v_c (cooling), v_M (maximum) 3. **Spectral shapes:** Power-law indices in different frequency regimes

Reverse shock:

4. **Thin-shell dynamics:** Shock dynamics during and after reverse shock crossing (short engine duration) 5.

Thick-shell dynamics: Shock dynamics during and after reverse shock crossing (long engine duration) 6.

Thin-shell frequencies: Characteristic frequency evolution during crossing phase 7. **Thick-shell frequencies:** Characteristic frequency evolution during crossing phase

All regression tests use a model resolution of (0.3, 2, 15) to ensure well-resolved evolution for accurate power-law fitting.

2. Evolutionary Phases

2.1 Forward Shock

The blast wave passes through distinct dynamical phases as it decelerates. Each phase exhibits characteristic power-law behavior that serves as a validation target.

| Phase | ISM Time Range | Wind Time Range | Physics |
|-----------------|-----------------------|-----------------------|--|
| Coasting | 0.1 - 1 s | 0.01 - 0.1 s | Free expansion, $\Gamma \approx$ const |
| Blandford-McKee | 500 - 5000 s | $10^4 - 10^5$ s | Self-similar deceleration |
| Deep Newtonian | $10^{12} - 10^{13}$ s | $10^{14} - 10^{15}$ s | Non-relativistic, $u < 0.1$ |

2.2 Reverse Shock (Thin Shell)

Short engine duration ($\tau \sim 0.01$ s). The reverse shock crosses the ejecta quickly, then evolves as a decaying blast wave.

| Phase | ISM Time Range | Wind Time Range | Physics |
|----------|----------------|-----------------|---------------------------------|
| Crossing | 0.01 - 0.1 s | 5 - 50 s | Reverse shock traversing ejecta |

| Phase | ISM Time Range | Wind Time Range | Physics |
|----------------|-----------------------|-----------------------|----------------------------|
| Post-crossing | $10^5 - 10^6$ s | $10^6 - 10^7$ s | Post-crossing deceleration |
| Deep Newtonian | $10^{12} - 10^{13}$ s | $10^{14} - 10^{15}$ s | Non-relativistic |

2.3 Reverse Shock (Thick Shell)

Long engine duration ($\tau \sim 10^4 - 10^5$ s). The reverse shock crosses while the engine is still active, producing different scaling.

| Phase | ISM Time Range | Wind Time Range | Physics |
|----------------|-----------------------|-----------------------|---|
| Crossing | 5000 - 50000 s | 100 - 1000 s | Reverse shock traversing during engine activity |
| Post-crossing | $10^7 - 10^8$ s | $10^7 - 10^8$ s | Post-crossing deceleration |
| Deep Newtonian | $10^{12} - 10^{13}$ s | $10^{14} - 10^{15}$ s | Non-relativistic |

3. Expected Scaling Relations

3.1 Forward Shock Dynamics

Physical quantities at the shock front scale as power laws with observer time: $Q \propto t^\alpha$. The exponents depend on the external medium density profile.

ISM (constant density n)

| Phase | u | r | B | N_p |
|-----------------|------|-----|------|-------|
| Coasting | 0 | 1 | 0 | 3 |
| Blandford-McKee | -3/8 | 1/4 | -3/8 | 3/4 |
| Deep Newtonian | -3/5 | 2/5 | -3/5 | 6/5 |

Wind (density $\propto r^{-2}$)

| Phase | u | r | B | N_p |
|-----------------|------|-----|------|-------|
| Coasting | 0 | 1 | -1 | 1 |
| Blandford-McKee | -1/4 | 1/2 | -3/4 | 1/2 |
| Deep Newtonian | -1/3 | 2/3 | -1 | 2/3 |

3.2 Forward Characteristic Frequencies

The synchrotron spectrum is characterized by break frequencies that evolve with time: $v \propto t^\alpha$.

ISM

| Phase | v_m | v_c | v_M |
|-----------------|-------|-------|-------|
| Coasting | 0 | -2 | 0 |
| Blandford-McKee | -3/2 | -1/2 | -3/8 |
| Deep Newtonian | -3/5 | -1/5 | 0 |

Wind

| Phase | v_m | v_c | v_M |
|-----------------|-------|-------|-------|
| Coasting | -1 | -1 | 0 |
| Blandford-McKee | -3/2 | 1/2 | -1/4 |
| Deep Newtonian | -1 | 1 | 0 |

3.3 Reverse Shock Dynamics (Thin Shell)

ISM

| Phase | u | r | B | N_p |
|-----------------|------|-----|-----|-------|
| Crossing | 3/2 | 1 | 0 | 3/2 |
| Blandford-McKee | -1/4 | 1/4 | — | 0 |
| Deep Newtonian | -2/5 | 2/5 | — | 0 |

Wind

| Phase | u | r | B | N_p |
|-----------------|-----|-----|-----|-------|
| Crossing | 1/2 | 1 | -1 | 1/2 |
| Blandford-McKee | — | 1/2 | — | 0 |
| Deep Newtonian | — | 2/3 | — | 0 |

“—” indicates quantities not tested (insufficiently clean power-law for reliable fitting).

3.4 Reverse Shock Dynamics (Thick Shell)

ISM

| Phase | u | r | B | N_p |
|-----------------|------|-----|------|-------|
| Crossing | 1/4 | 1/2 | -1/4 | 1 |
| Blandford-McKee | -1/4 | 1/4 | — | 0 |

| Phase | u | r | B | N_p |
|----------------|------|-----|---|-------|
| Deep Newtonian | -2/5 | 2/5 | — | 0 |

Wind

| Phase | u | r | B | N_p |
|----------------|---|-----|----|-------|
| Crossing | 0 | 1 | -1 | 1 |
| Post-crossing | — | 1/2 | — | 0 |
| Deep Newtonian | — | 2/3 | — | 0 |

3.5 Reverse Shock Characteristic Frequencies

Frequency scaling is validated during the crossing phase. Post-crossing and deep Newtonian frequency tests are not performed for reverse shocks since the reverse shock material is no longer freshly shocked.

Thin Shell — Crossing Phase

| Medium | v_m | v_c | v_M |
|--------|-------|-------|-------|
| ISM | 0 | -2 | 0 |
| Wind | -1 | 1 | 0 |

Thick Shell — Crossing Phase

| Medium | v_m | v_c | v_M |
|--------|-------|-------|-------|
| ISM | — | -1 | -1/4 |
| Wind | -1 | 1 | 0 |

4. Spectral Regimes

The synchrotron spectrum consists of power-law segments joined at break frequencies. The spectral index $\beta = d(\log F_\nu)/d(\log v)$ depends on the ordering of v_a , v_m , and v_c .

Regime I: $v_a < v_m < v_c$ (Slow Cooling)

The standard slow-cooling spectrum where electrons cool on timescales longer than the dynamical time.

| Frequency Range | β |
|-----------------|------------|
| $v < v_a$ | 2 |
| $v_a < v < v_m$ | 1/3 |
| $v_m < v < v_c$ | $-(p-1)/2$ |

| | |
|-----------------|---------|
| Frequency Range | β |
| $v > v_c$ | $-p/2$ |

Regime II: $v_m < v_a < v_c$

Self-absorption frequency lies between the injection and cooling frequencies.

| | |
|-----------------|------------|
| Frequency Range | β |
| $v < v_m$ | 2 |
| $v_m < v < v_a$ | 5/2 |
| $v_a < v < v_c$ | $-(p-1)/2$ |
| $v > v_c$ | $-p/2$ |

Regime III: $v_a < v_c < v_m$ (Fast Cooling)

Fast-cooling regime where electrons radiate most of their energy before the next dynamical time.

| | |
|-----------------|---------|
| Frequency Range | β |
| $v < v_a$ | 2 |
| $v_a < v < v_c$ | 1/3 |
| $v_c < v < v_m$ | -1/2 |
| $v > v_m$ | $-p/2$ |

Regime IV: $v_c < v_a < v_m$

Self-absorption occurs above the cooling frequency in fast-cooling conditions.

| | |
|-----------------|---------|
| Frequency Range | β |
| $v < v_c$ | 2 |
| $v_c < v < v_a$ | 2 |
| $v_a < v < v_m$ | -1/2 |
| $v > v_m$ | $-p/2$ |

Regime V: $v_c < v_m < v_a$

Heavily self-absorbed fast-cooling spectrum.

| | |
|-----------------|---------|
| Frequency Range | β |
| $v < v_c$ | 2 |

| | |
|-----------------|---------|
| Frequency Range | β |
| $v_c < v < v_m$ | 2 |
| $v_m < v < v_a$ | 5/2 |
| $v > v_a$ | -p/2 |

The electron index $p = 2.2$ is used, giving $-(p-1)/2 = -0.6$ and $-p/2 = -1.1$.

5. Summary Grid Interpretation

The summary page provides a compact view of all regression tests, allowing rapid identification of any deviations from expected behavior.

Grid Layout

- Rows: Physical quantities (u , r , B , N_p for shock; v_m , v_c for frequencies; regimes I-V for spectra)
- Columns: Medium (ISM/Wind) subdivided by phase (Coasting, BM, Deep Newtonian)

Cell Contents

Each cell displays the comparison between simulation and theory:

- Top value: Measured power-law exponent
- Bottom value: Expected theoretical value

Color Coding

| Color | Status | Criterion | | |
|-------|--------|-------------------------------------|---------------------|------------------|
| Green | Pass | | measured - expected | < tolerance |
| Red | Fail | | measured - expected | \geq tolerance |
| Gray | N/A | Insufficient data or not applicable | | |

Tolerances

- Shock dynamics: 0.1
 - Characteristic frequencies: 0.1
 - Spectral shapes: 0.15
-

6. Detailed Plot Interpretation

The detailed plots provide diagnostic information for understanding any discrepancies identified in the summary grid.

Forward Shock Dynamics Plots (2x2 grid per medium)

Each panel shows two subplots:

- Upper: Quantity vs time (log-log), with phase regions color-coded
- Lower: Local power-law exponent $d(\log Q)/d(\log t)$

Dashed lines indicate expected scaling. Markers show fitted values. Agreement between markers and dashed lines confirms correct implementation.

Reverse Shock Dynamics Plots

Same layout as forward shock, with separate pages for thin-shell and thick-shell configurations. The crossing phase is highlighted distinctly from the post-crossing and deep Newtonian phases.

Characteristic Frequency Plots

Same layout as shock dynamics, tracking v_m , v_c , and v_M evolution. The frequency ordering determines which spectral regime applies at each time.

Spectrum Shape Plots (per regime)

Each regime has a dedicated plot showing:

- Upper: F_v vs v with break frequencies marked as vertical lines
- Lower: Spectral index $\beta = d(\log F_v)/d(\log v)$

Colored regions indicate frequency segments between breaks. Flat regions in the lower panel confirm correct power-law behavior within each segment.

Dynamics Summary: 60/60 passed (100%)

Forward Shock (24/24)

| | ISM Coast | ISM Bland | ISM Sedov | Wind Coast | Wind Bland | Wind Sedov |
|---------------|------------|---------------|---------------|-------------|---------------|---------------|
| $\Gamma\beta$ | -0.00 0 | -0.38 -3/8 | -0.60 -3/5 | -0.00 0 | -0.25 -1/4 | -0.33 -1/3 |
| r | 1.00 1 | 0.27 1/4 | 0.40 2/5 | 1.00 1 | 0.52 1/2 | 0.66 2/3 |
| B | 0.00 0 | -0.38 -3/8 | -0.60 -3/5 | -1.00 -1 | -0.78 -3/4 | -0.99 -1 |
| N_p | 3.00 3 | 0.81 3/4 | 1.20 6/5 | 1.00 1 | 0.52 1/2 | 0.66 2/3 |

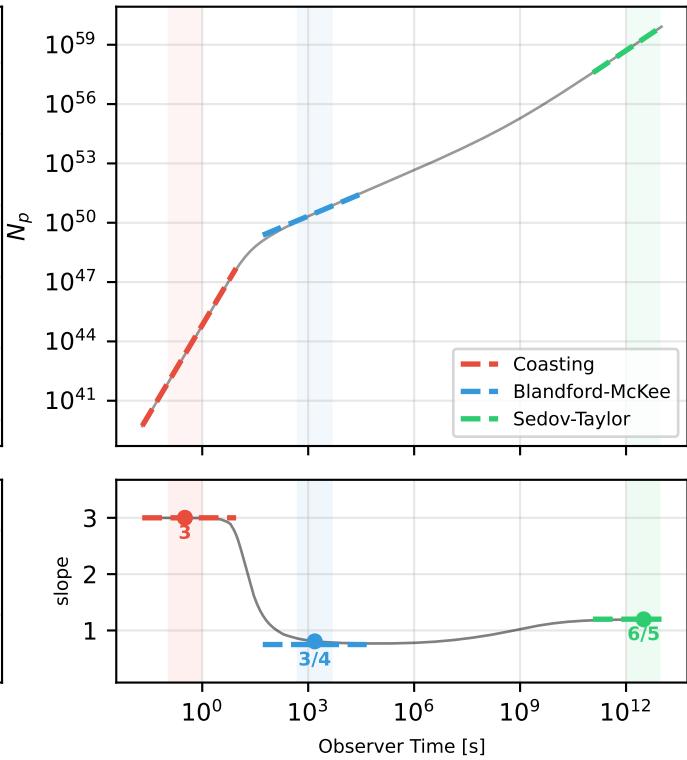
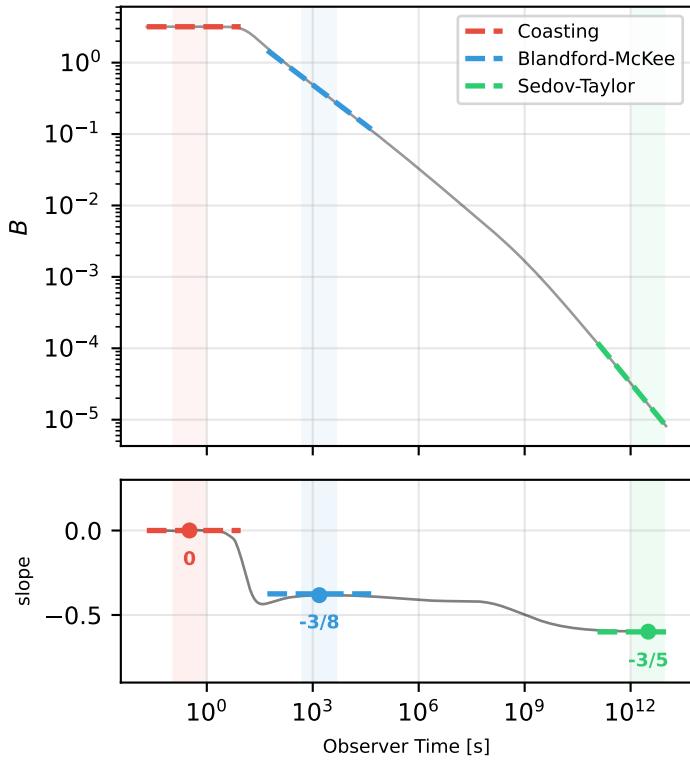
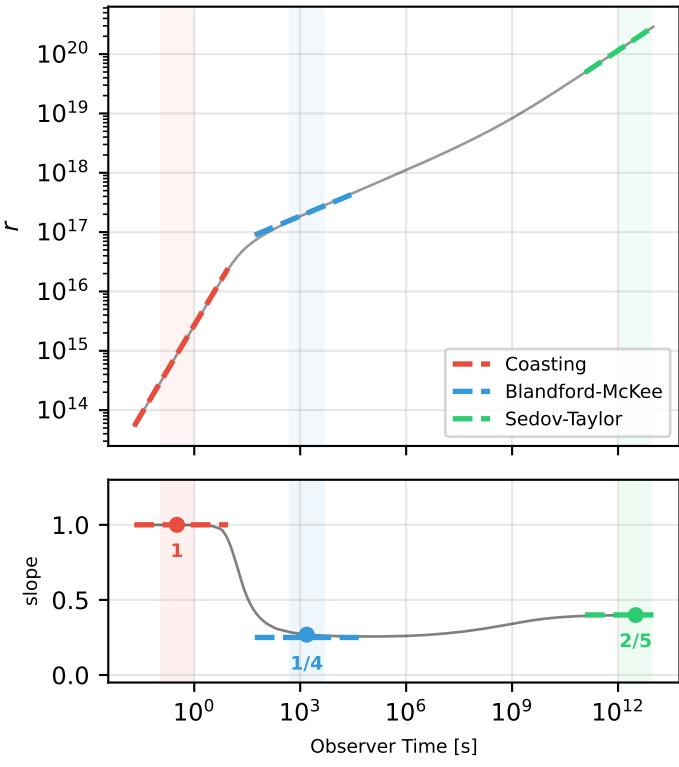
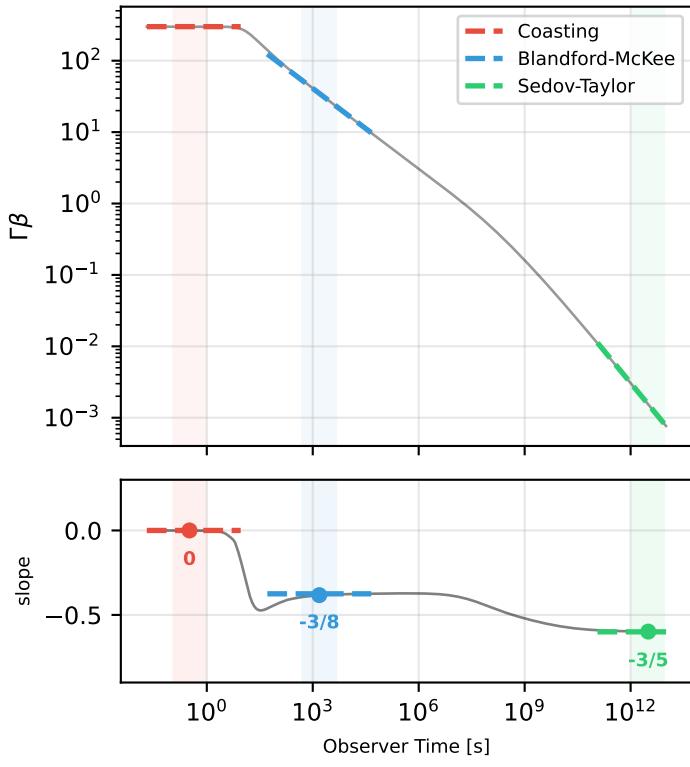
Reverse Shock — Thin Shell (18/18)

| | ISM Cross | ISM Post- | ISM Sedov | Wind Cross | Wind Post- | Wind Sedov |
|---------------|-------------|---------------|---------------|-------------|-------------|-------------|
| $\Gamma\beta$ | 1.48 3/2 | -0.20 -1/4 | -0.30 -2/5 | 0.45 1/2 | — | — |
| r | 1.00 1 | 0.26 1/4 | 0.40 2/5 | 0.97 1 | 0.52 1/2 | 0.66 2/3 |
| B | -0.02 0 | — | — | -1.01 -1 | — | — |
| N_p | 1.50 3/2 | 0.00 0 | 0.00 0 | 0.48 1/2 | 0.00 0 | 0.00 0 |

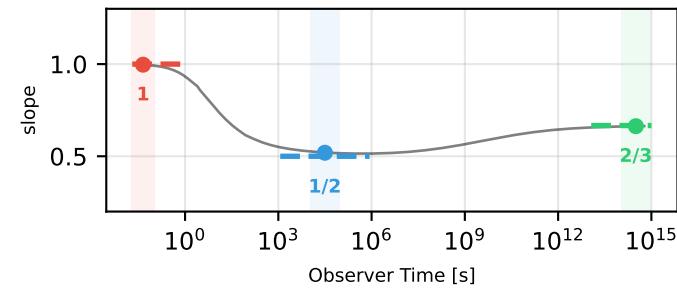
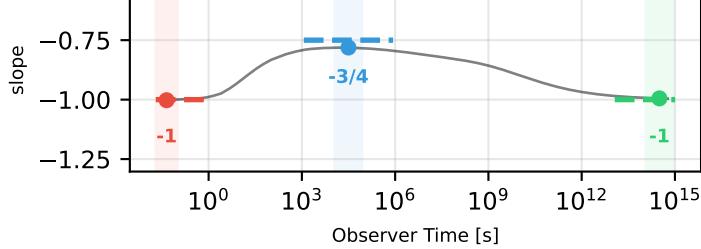
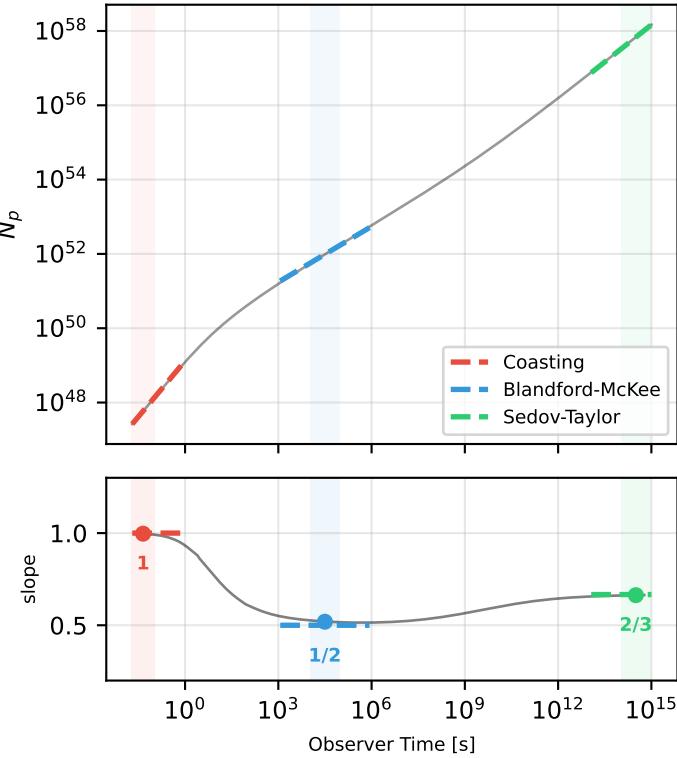
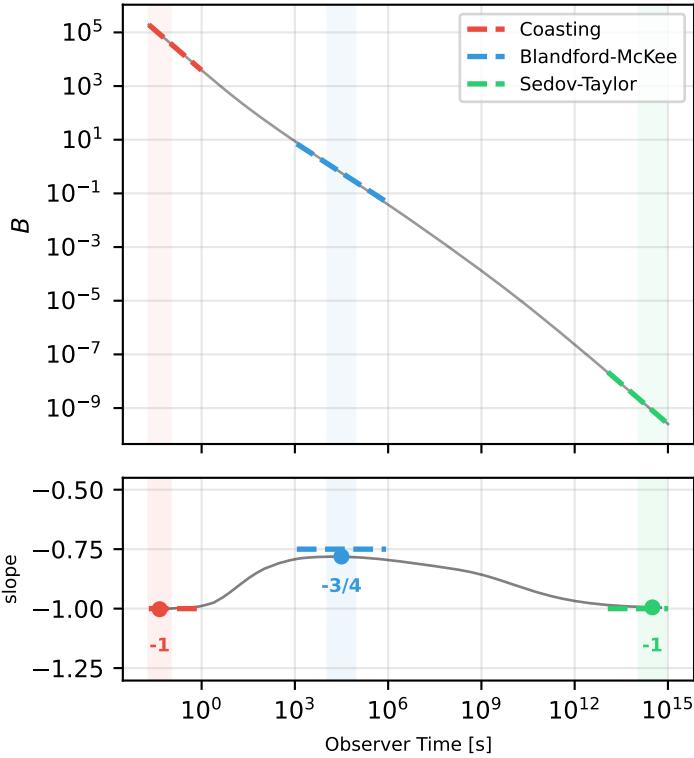
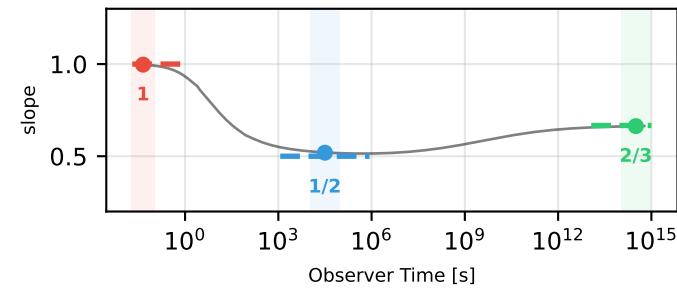
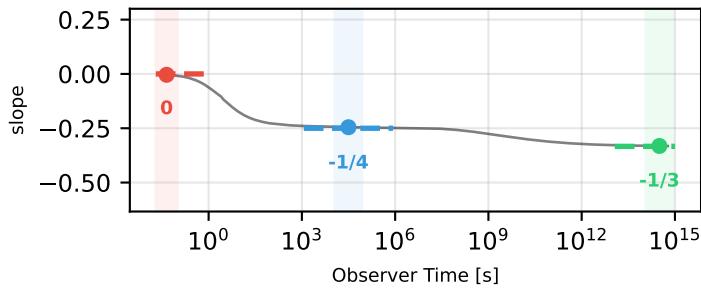
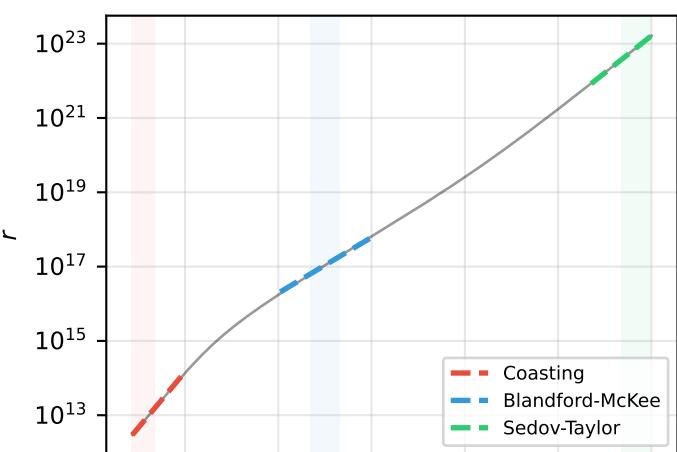
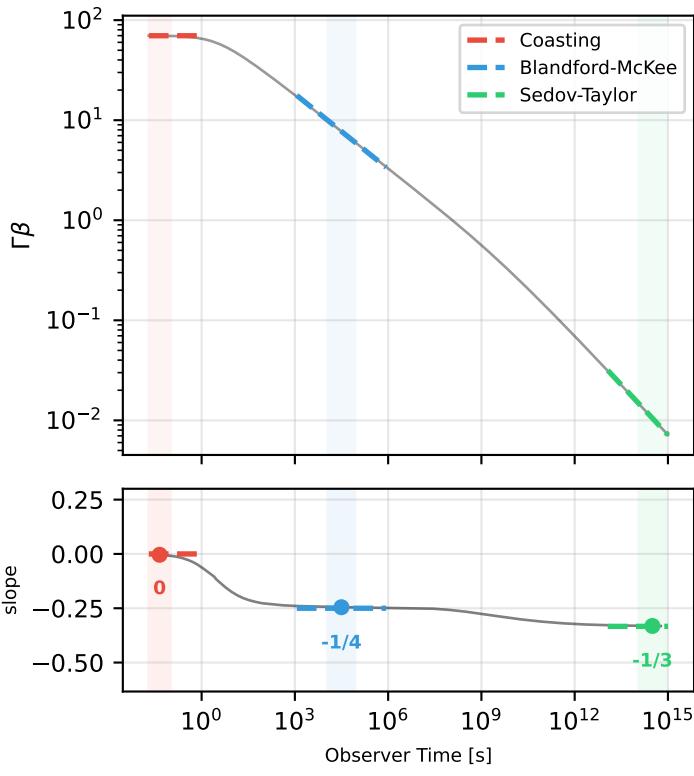
Reverse Shock — Thick Shell (18/18)

| | ISM Cross | ISM Post- | ISM Sedov | Wind Cross | Wind Post- | Wind Sedov |
|---------------|---------------|---------------|---------------|-------------|-------------|-------------|
| $\Gamma\beta$ | 0.25 1/4 | -0.28 -1/4 | -0.30 -2/5 | -0.00 0 | — | — |
| r | 0.50 1/2 | 0.29 1/4 | 0.40 2/5 | 1.00 1 | 0.52 1/2 | 0.66 2/3 |
| B | -0.23 -1/4 | — | — | -1.00 -1 | — | — |
| N_p | 1.00 1 | 0.00 0 | 0.00 0 | 1.00 1 | 0.00 0 | 0.00 0 |

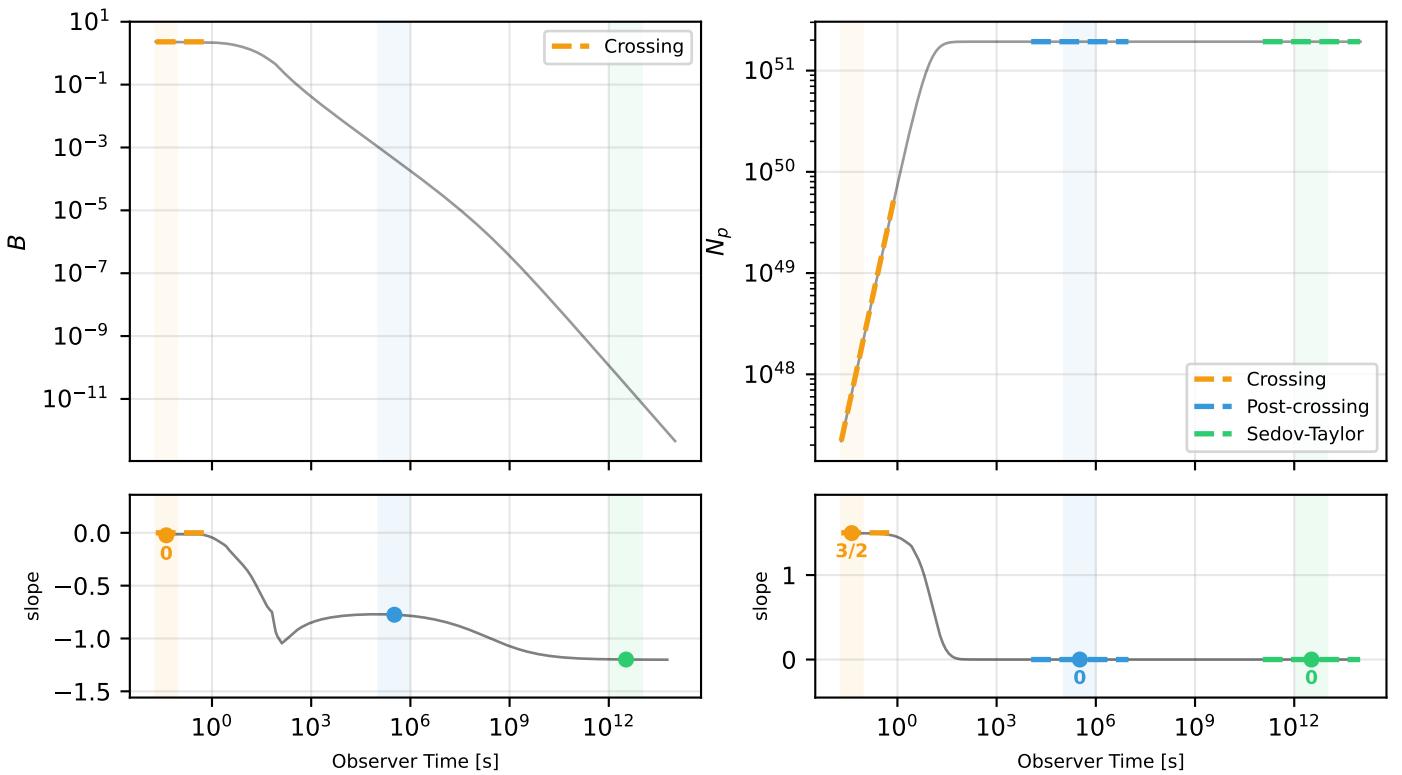
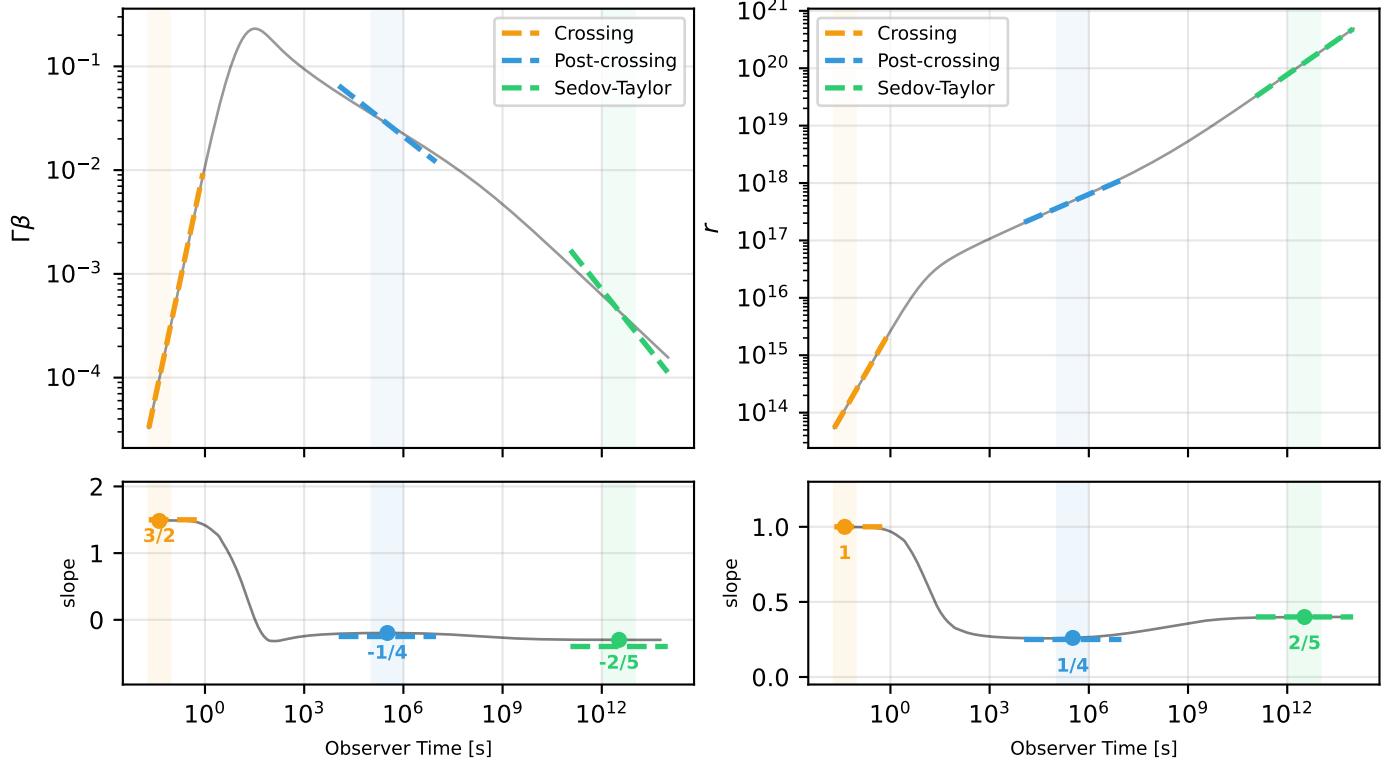
Forward Shock Dynamics: ISM



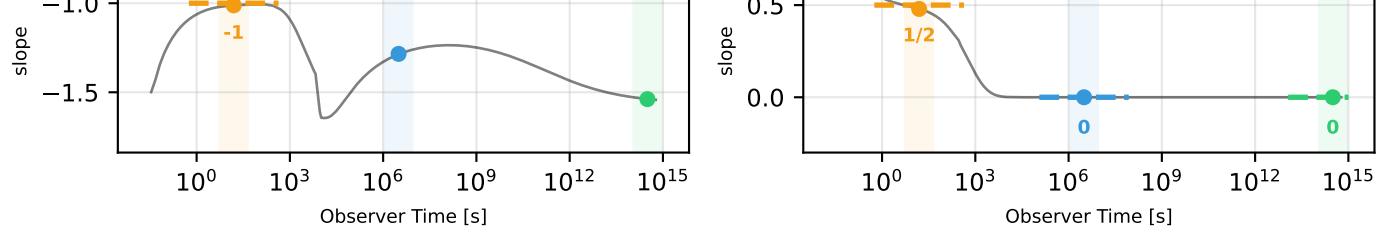
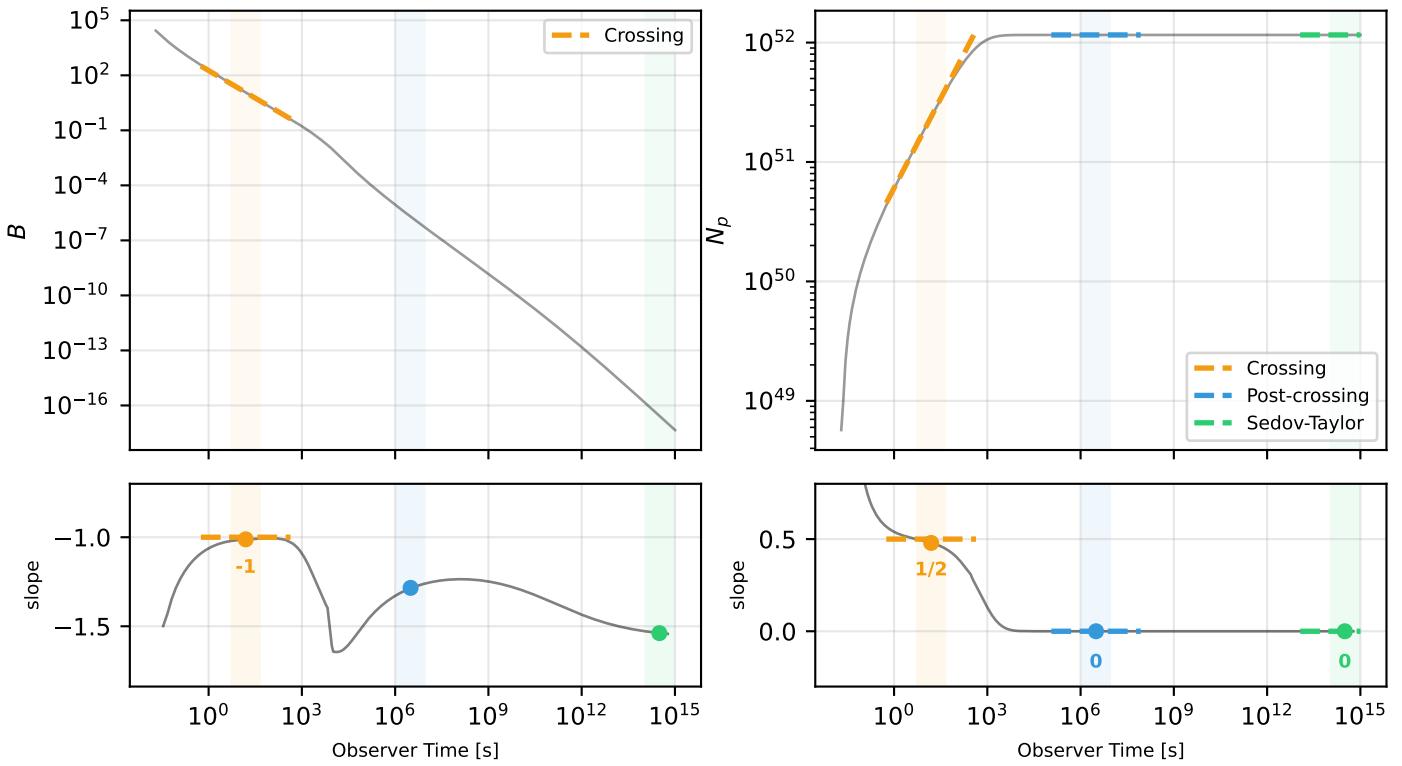
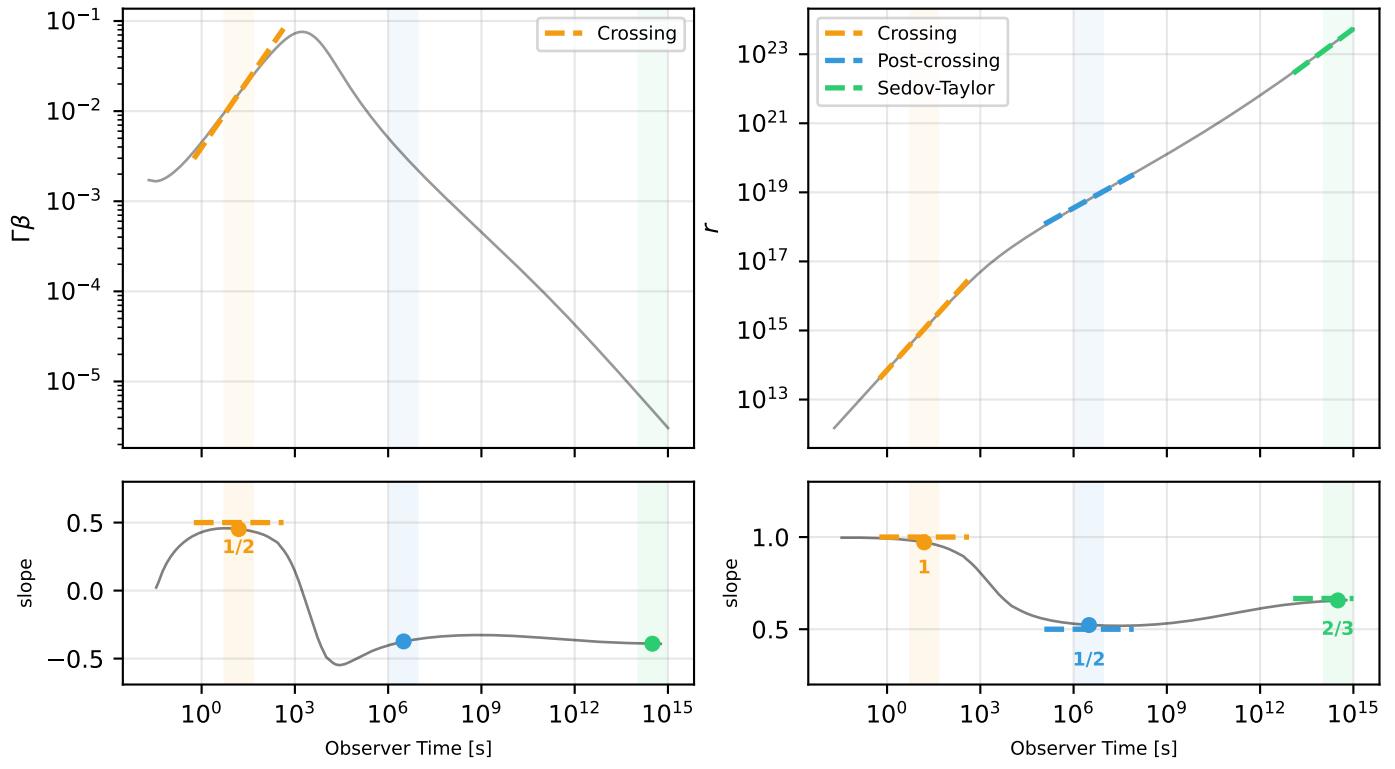
Forward Shock Dynamics: Wind



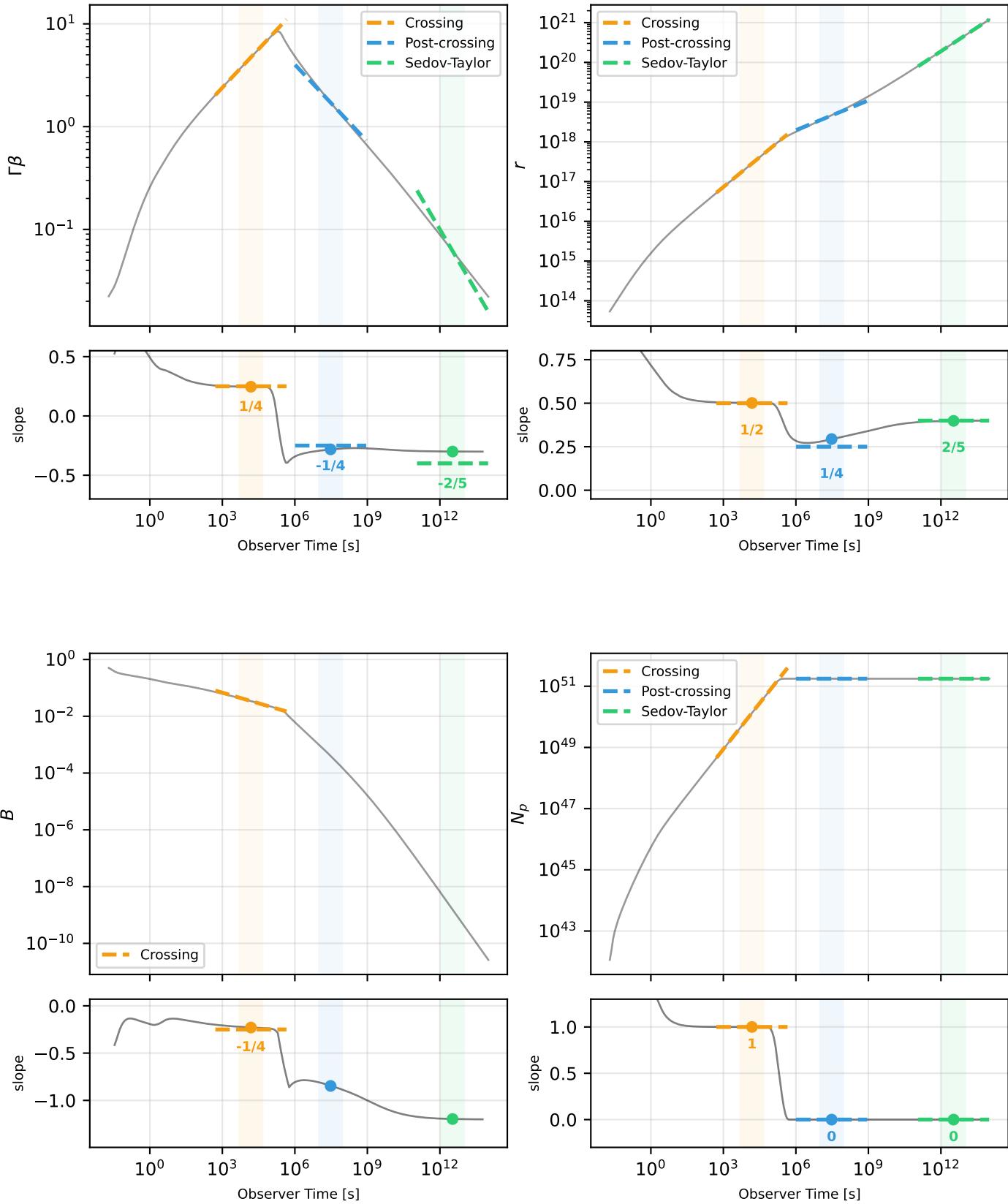
Reverse Shock Dynamics — Thin Shell: ISM



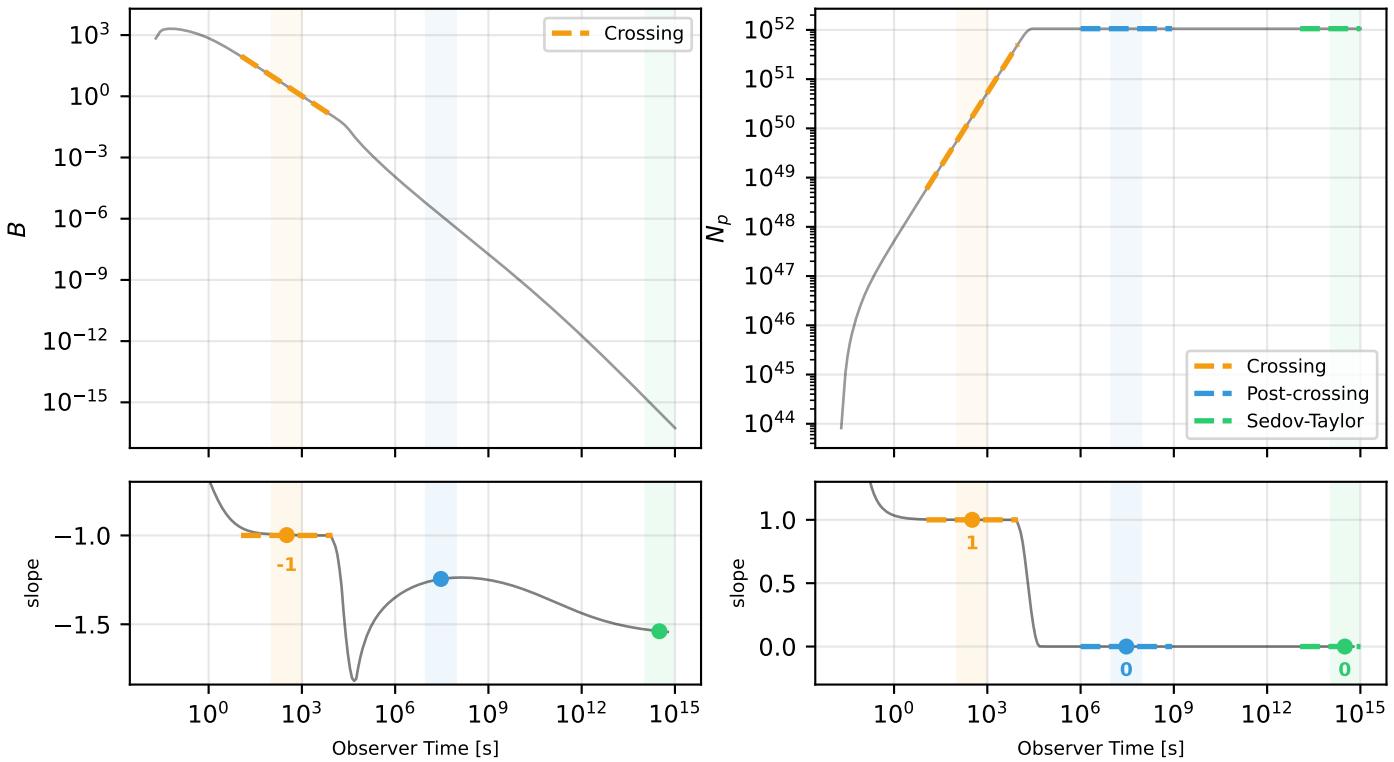
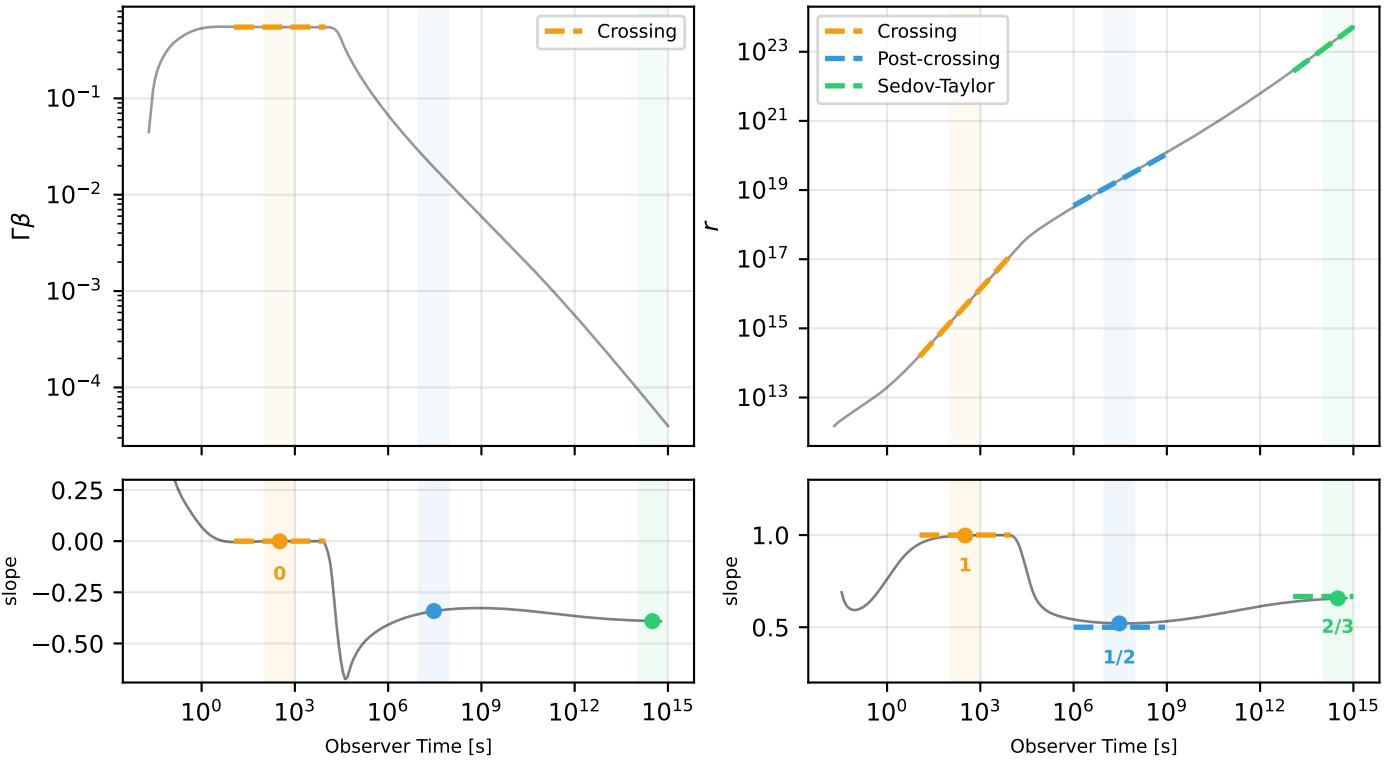
Reverse Shock Dynamics — Thin Shell: Wind



Reverse Shock Dynamics — Thick Shell: ISM



Reverse Shock Dynamics — Thick Shell: Wind



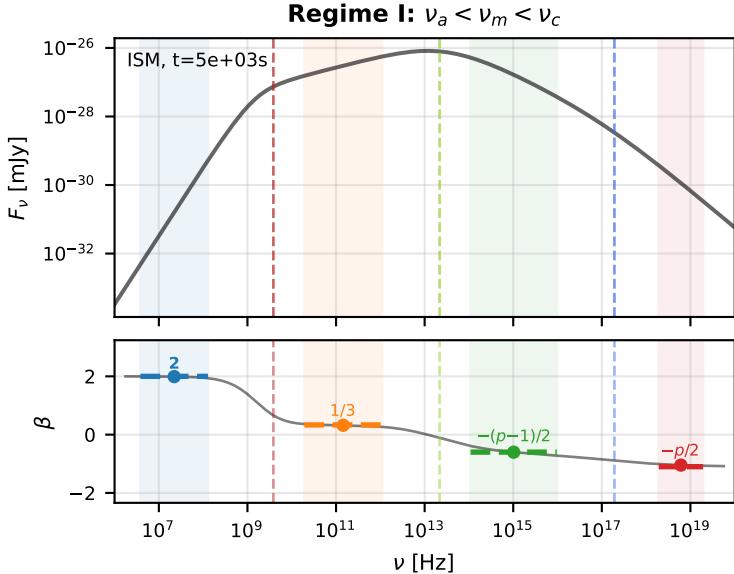
Synchrotron Spectrum Shapes: 19/19 passed (100%)

Synchrotron Spectrum Shapes (19/19)

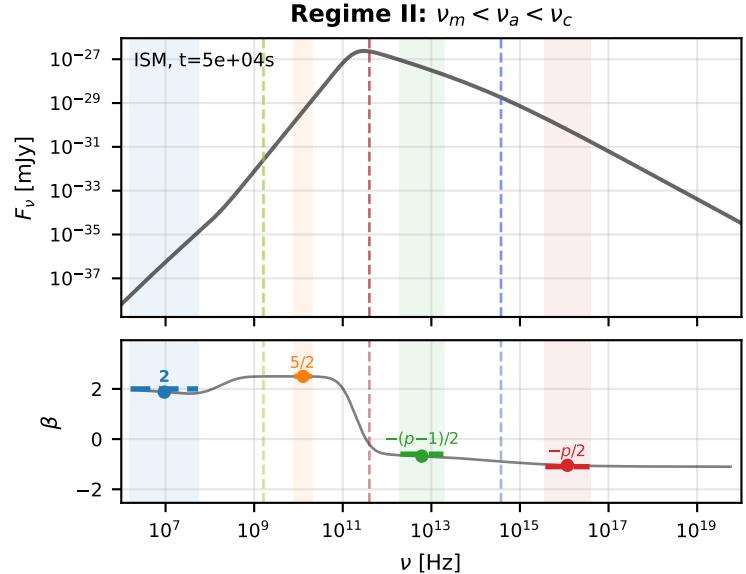


Synchrotron Spectrum Shapes: Spectral Index Verification

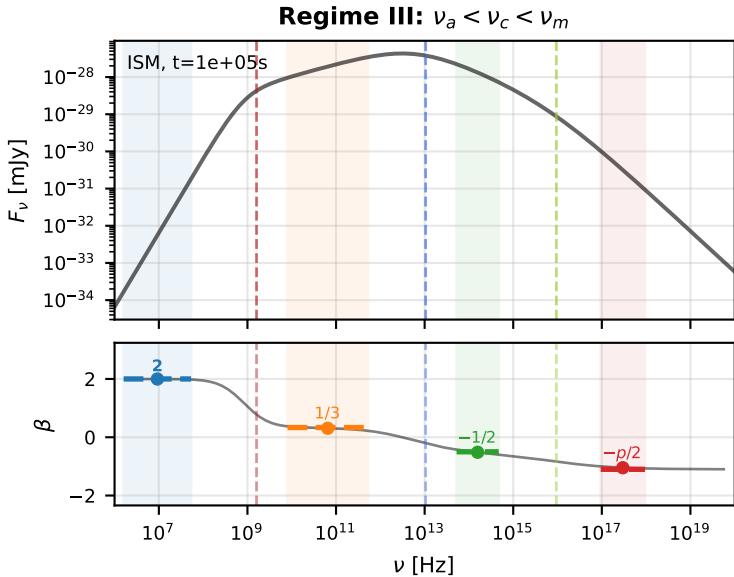
Regime I: $\nu_a < \nu_m < \nu_c$



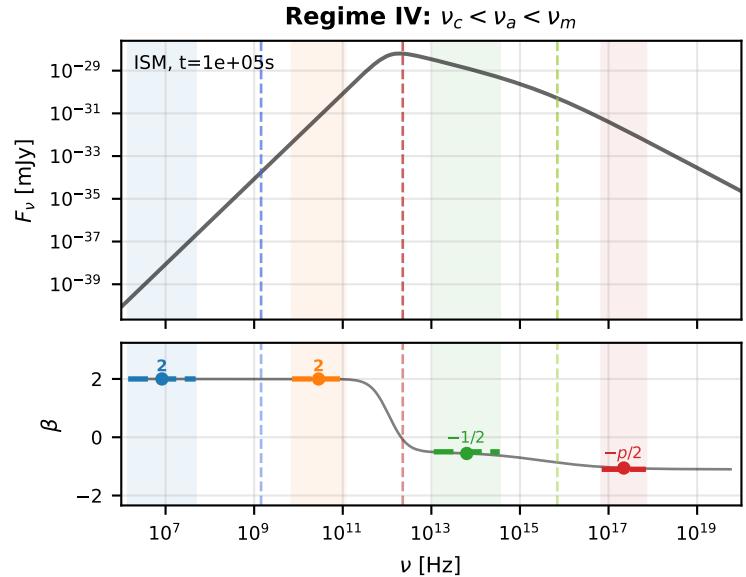
Regime II: $\nu_m < \nu_a < \nu_c$



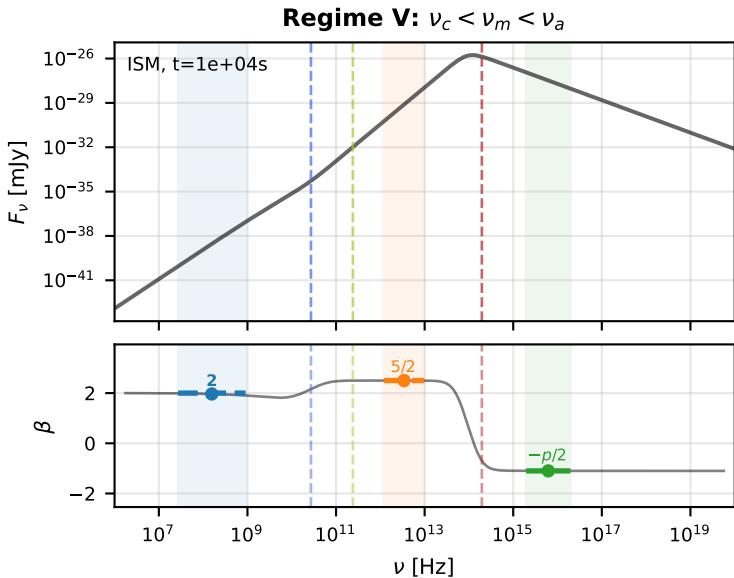
Regime III: $\nu_a < \nu_c < \nu_m$



Regime IV: $\nu_c < \nu_a < \nu_m$



Regime V: $\nu_c < \nu_m < \nu_a$



Frequencies Summary: 29/29 passed (100%)

Forward Shock (18/18)



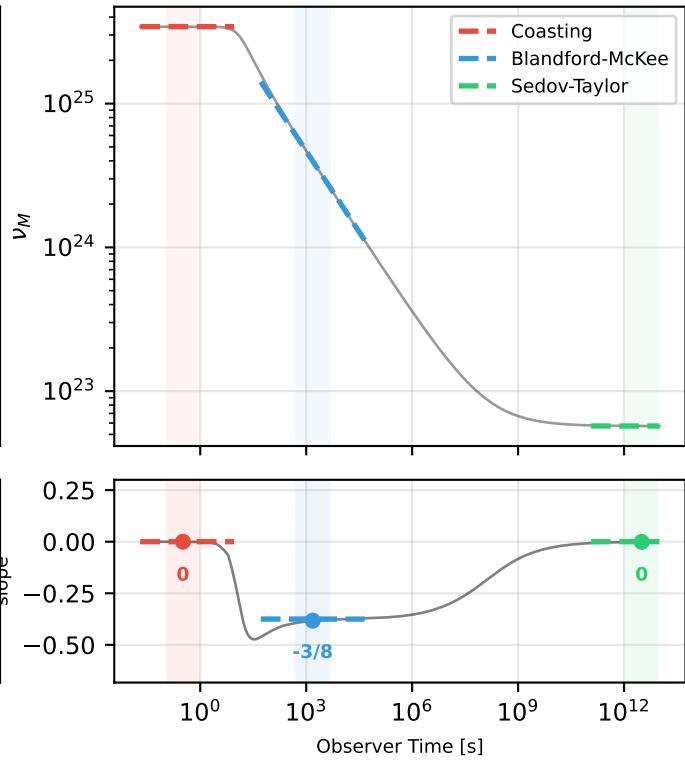
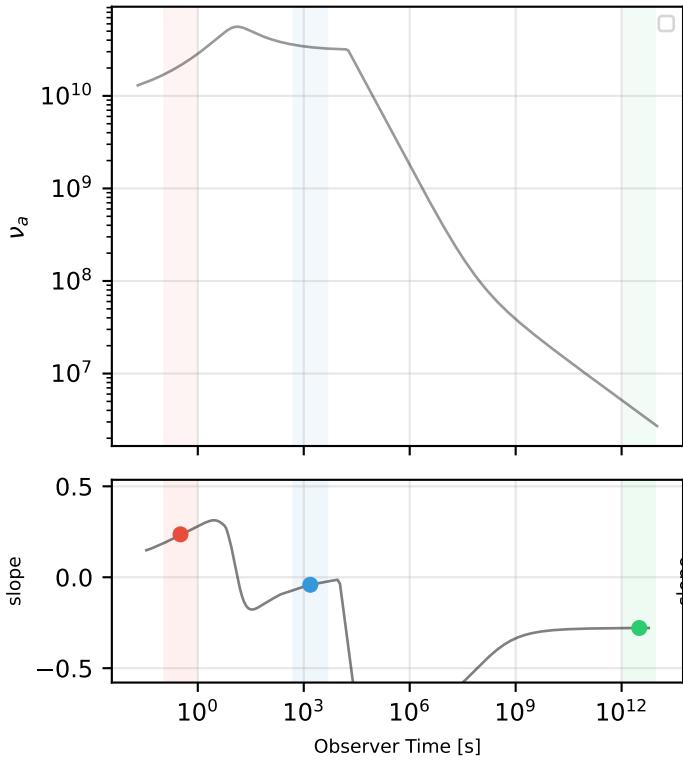
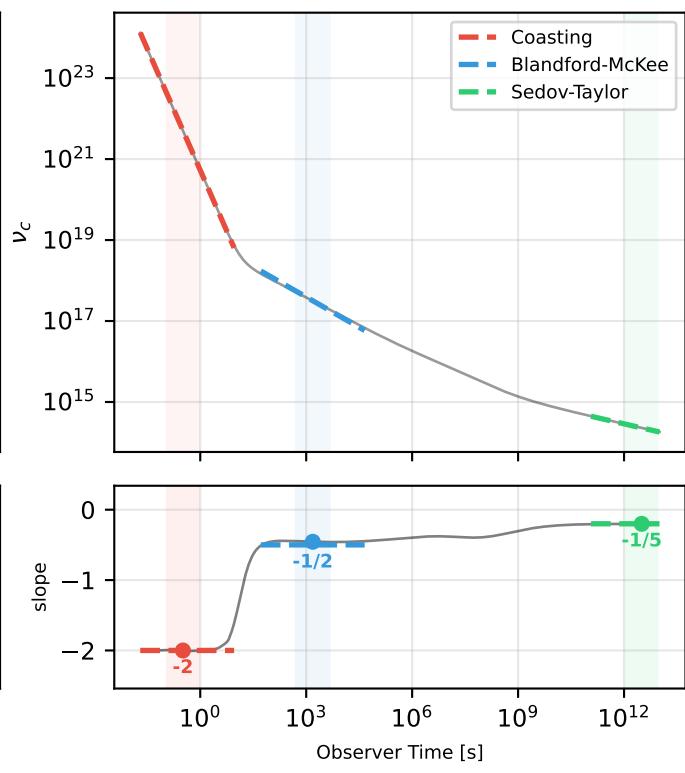
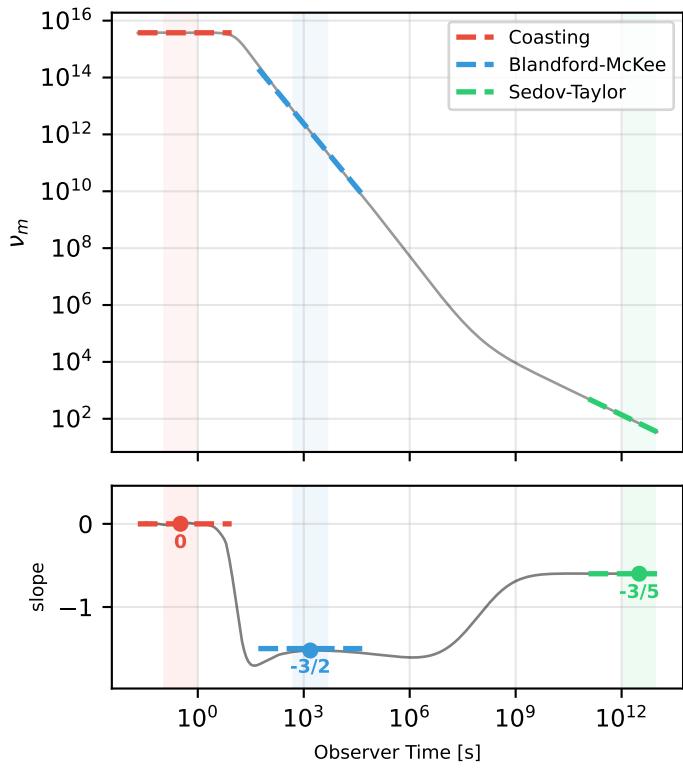
Reverse Shock — Thin Shell (6/6)



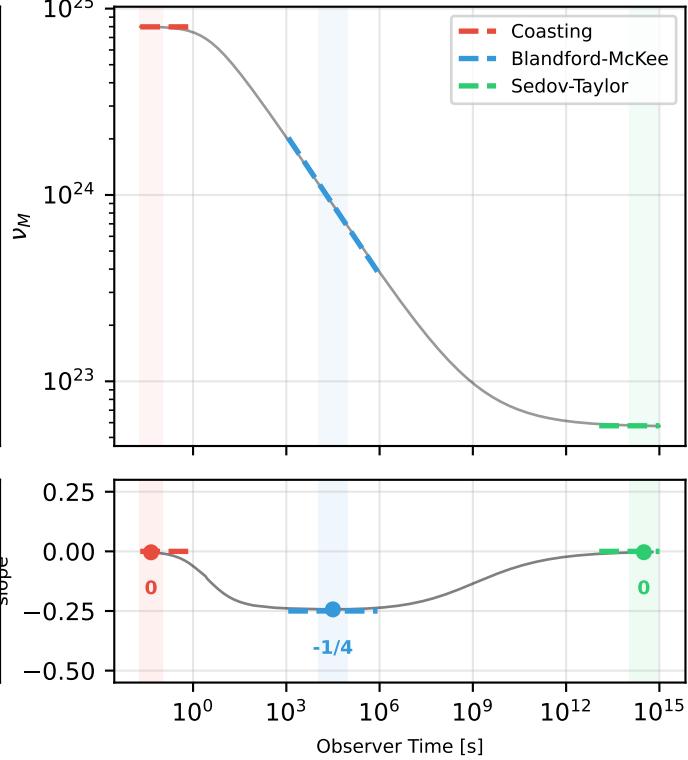
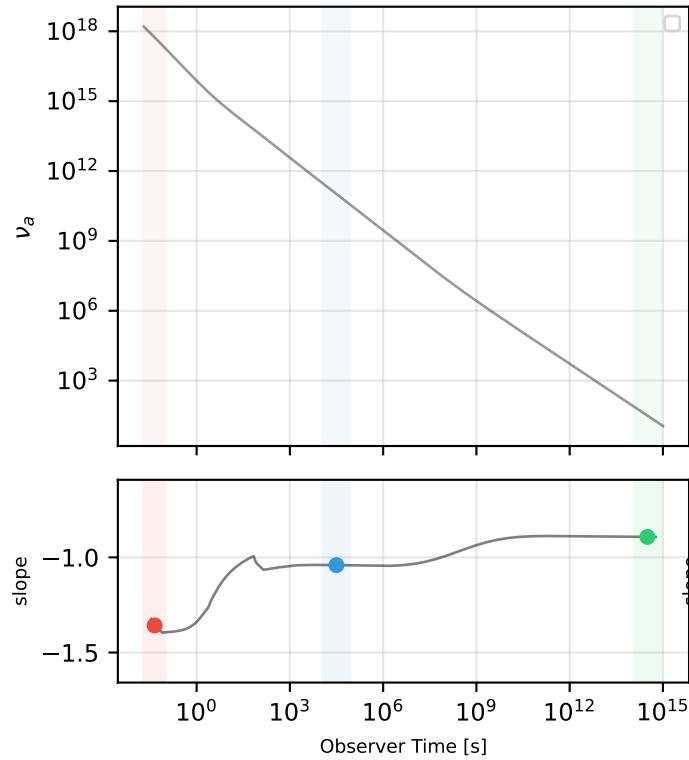
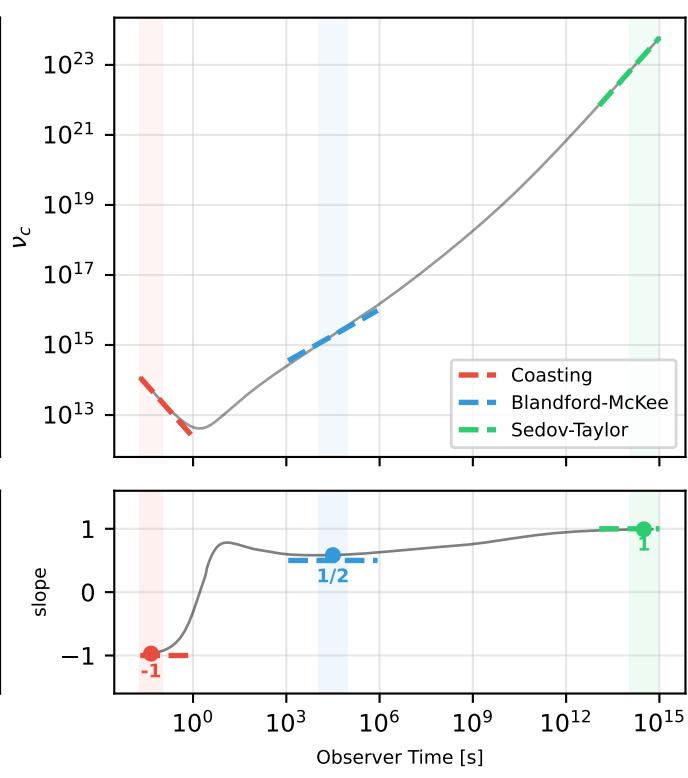
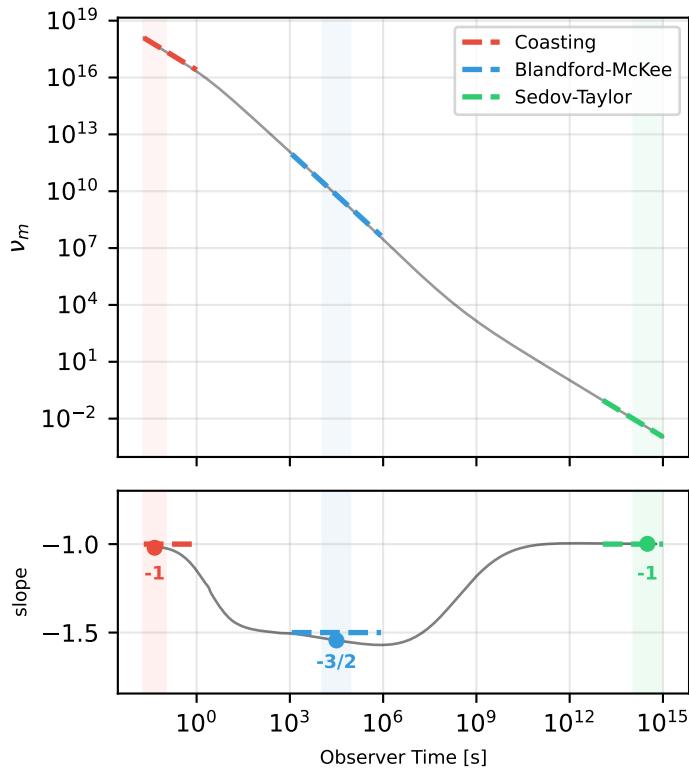
Reverse Shock — Thick Shell (5/5)



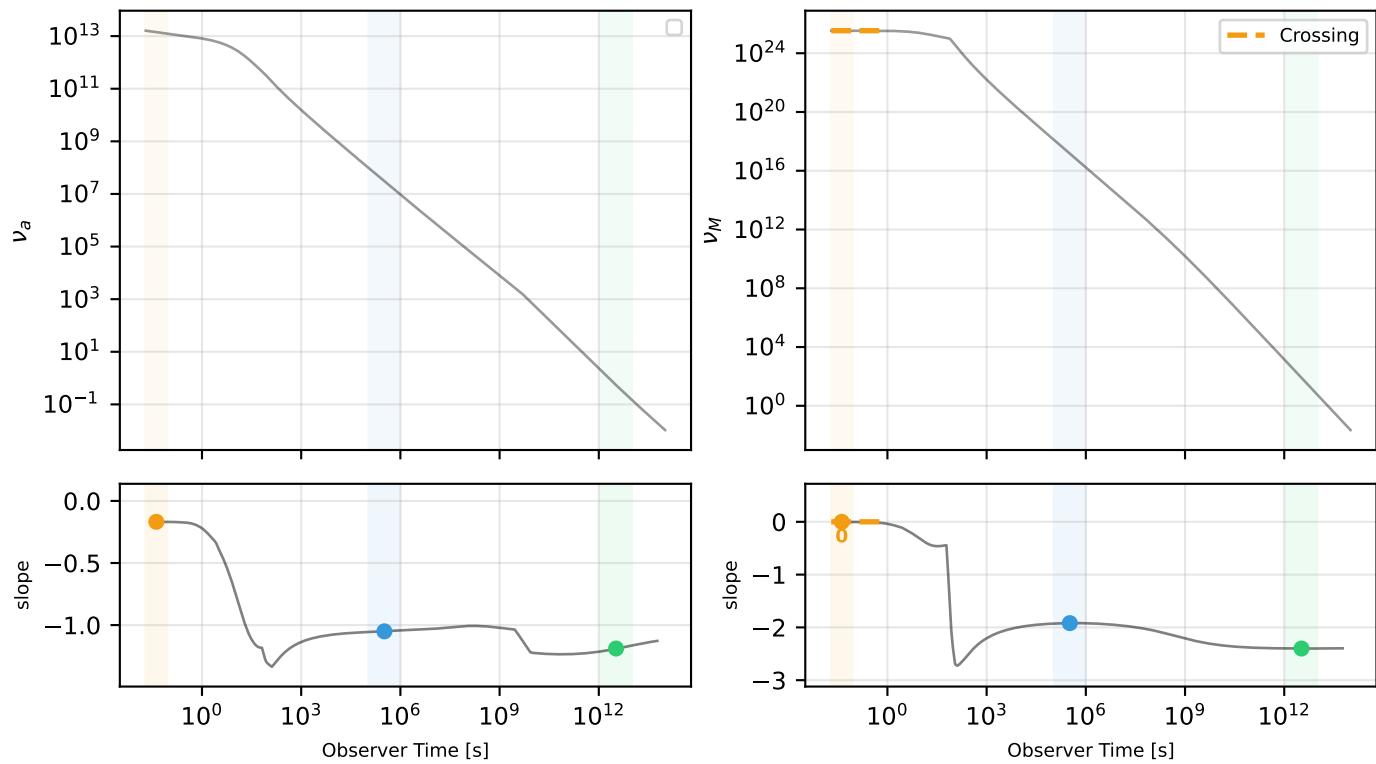
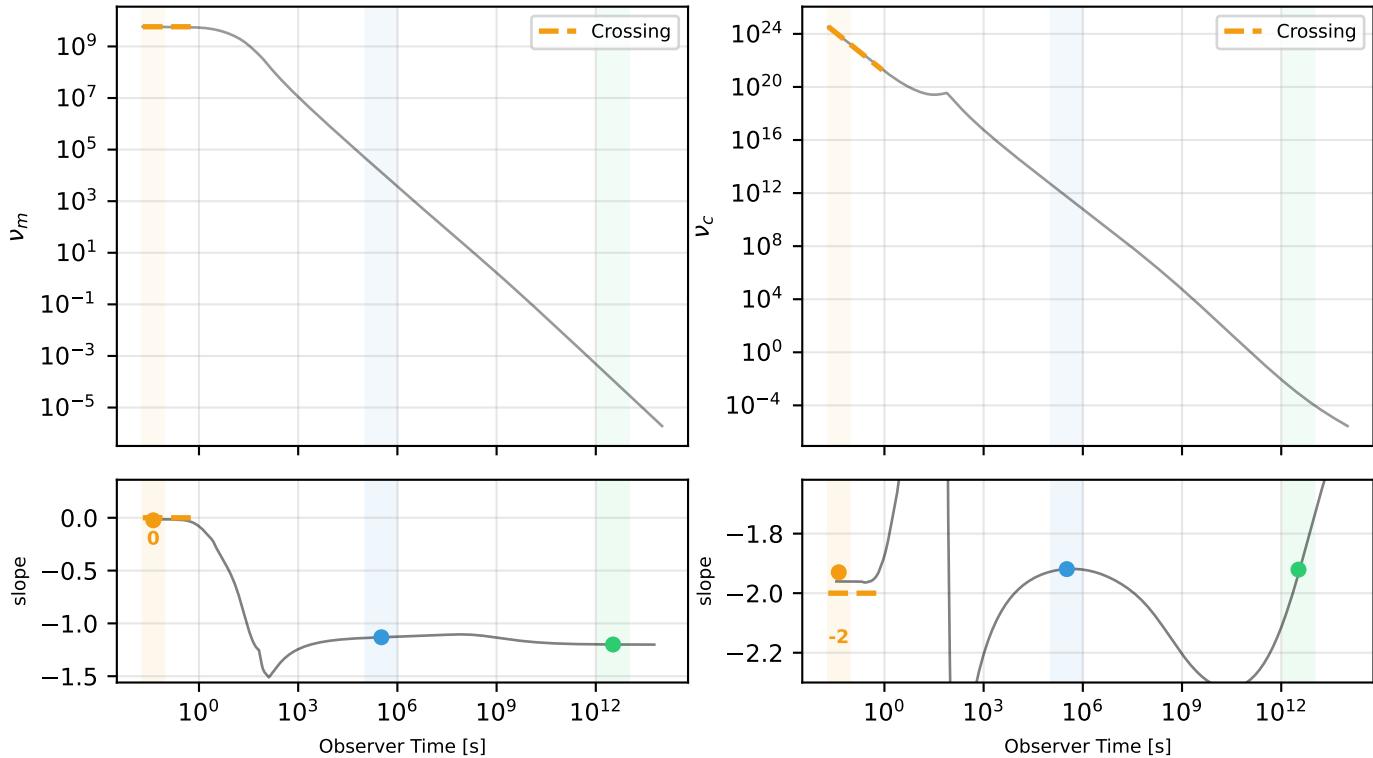
Forward Shock Frequencies: ISM



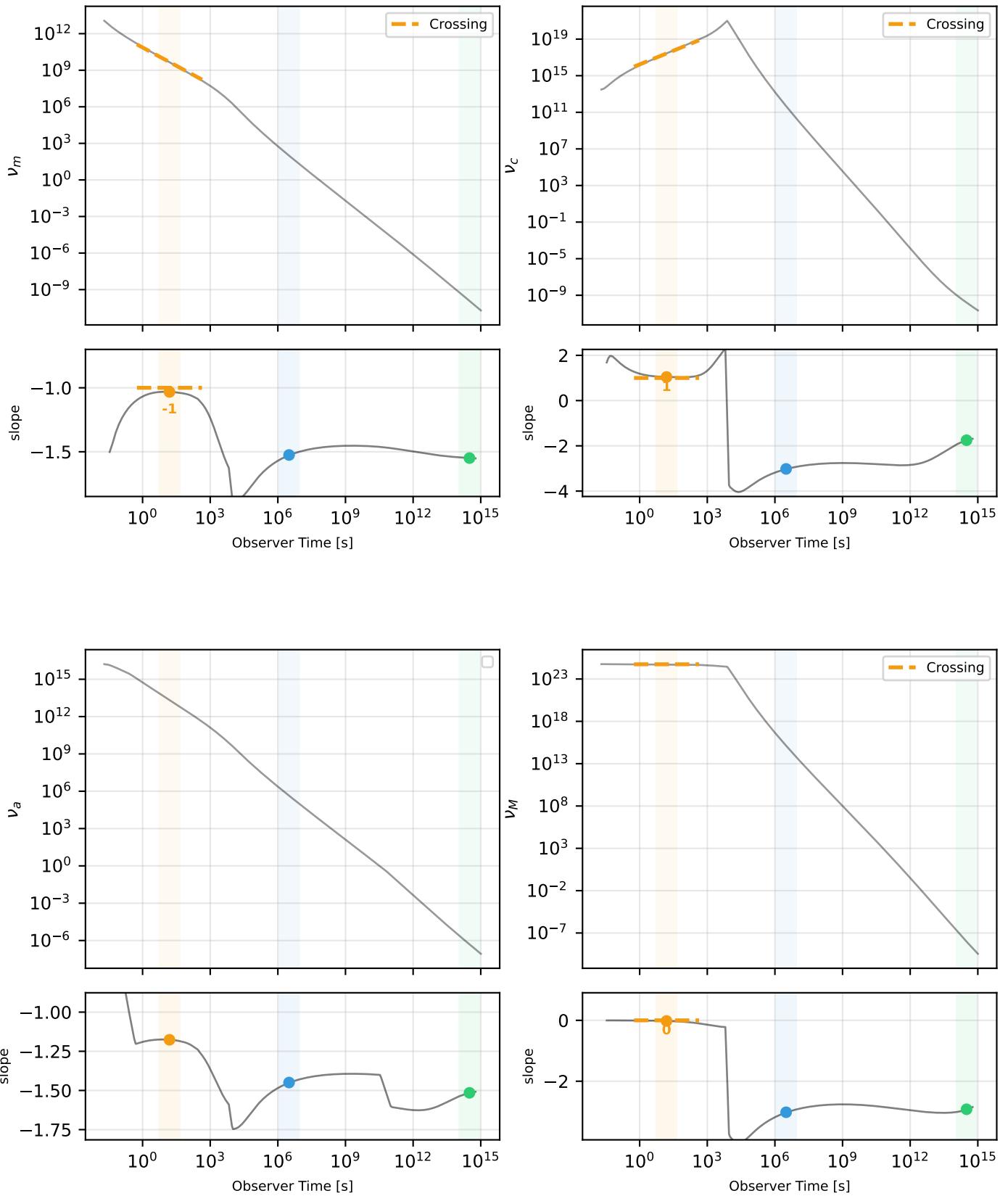
Forward Shock Frequencies: Wind



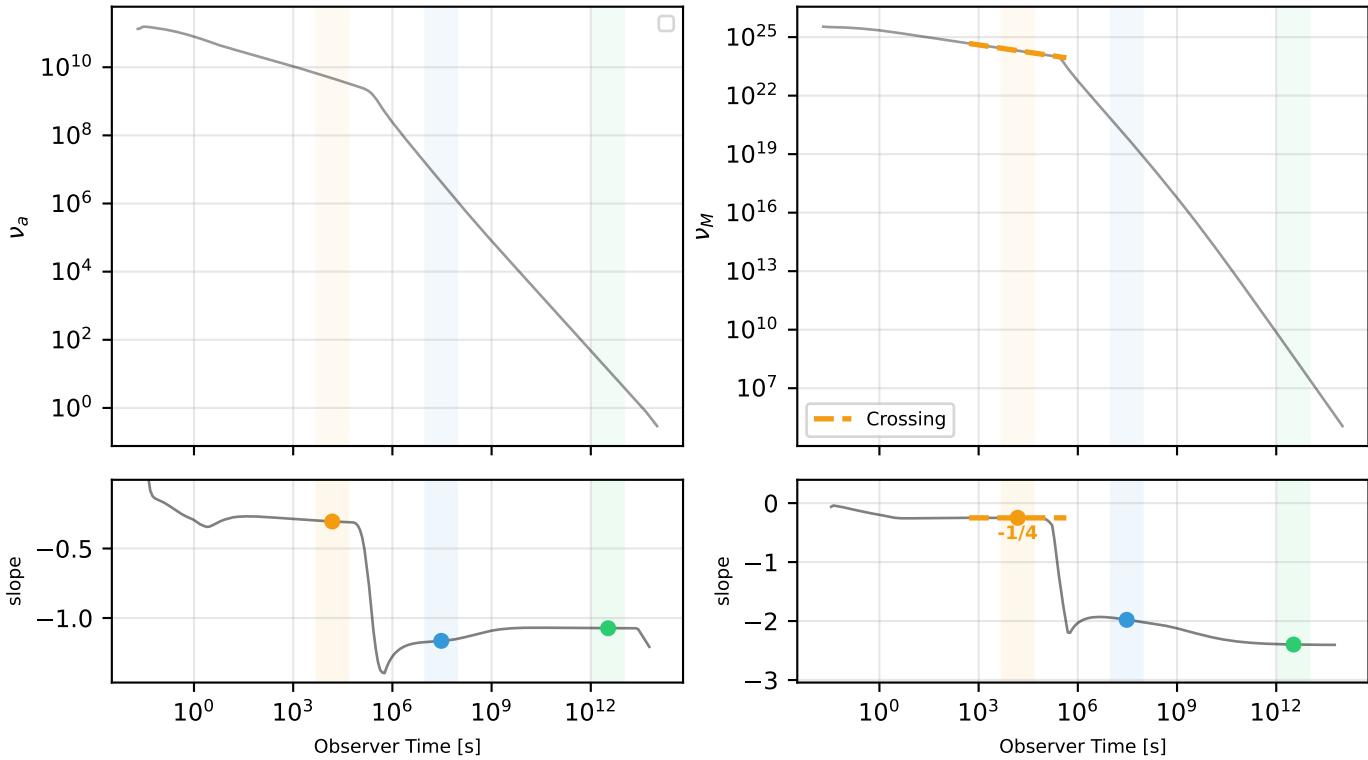
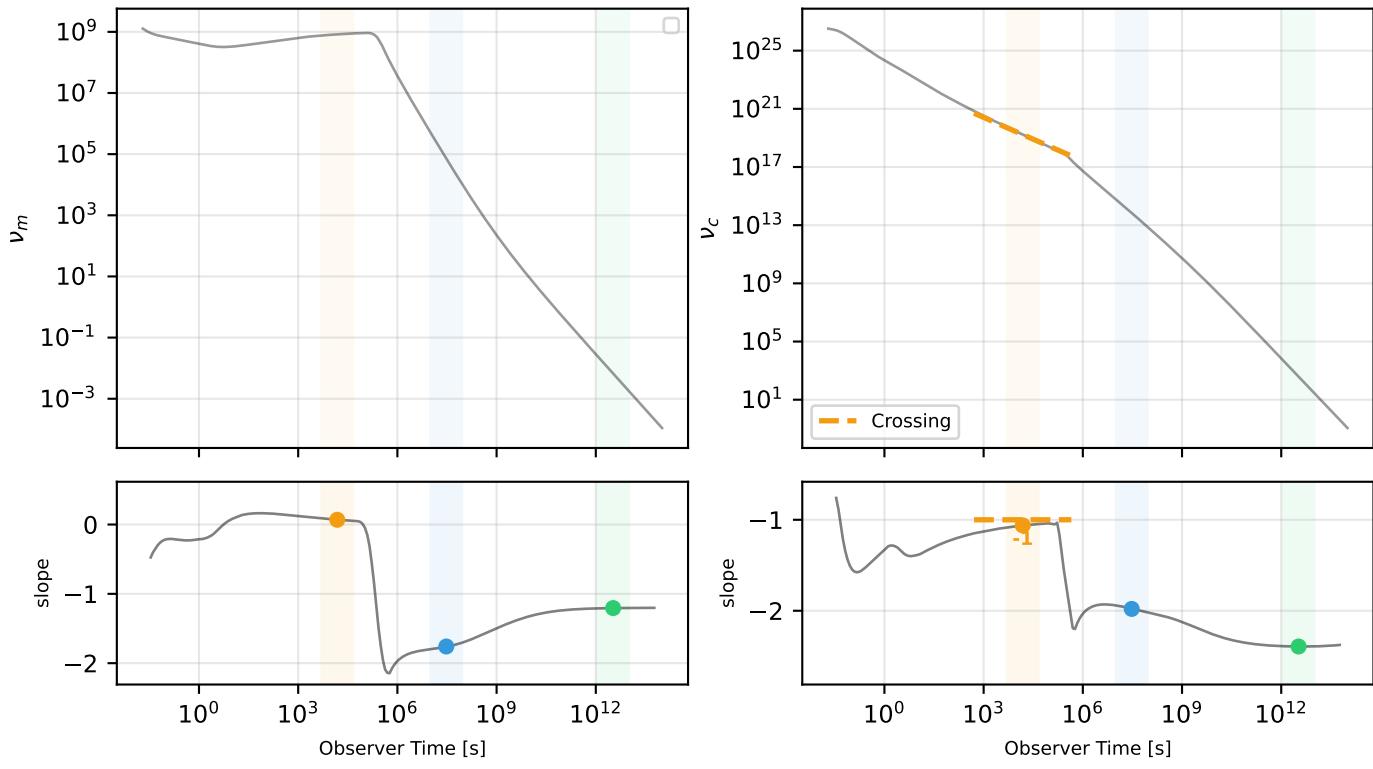
Reverse Shock Frequencies — Thin Shell: ISM



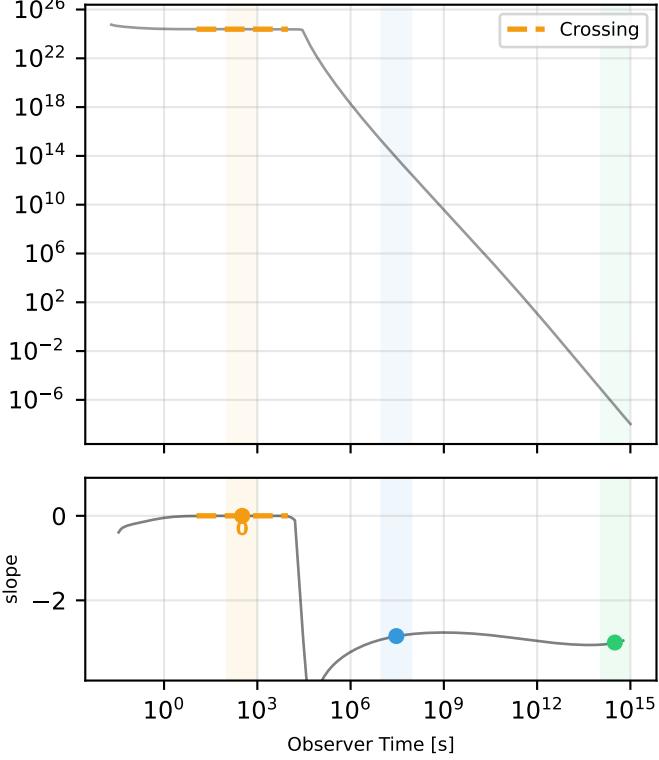
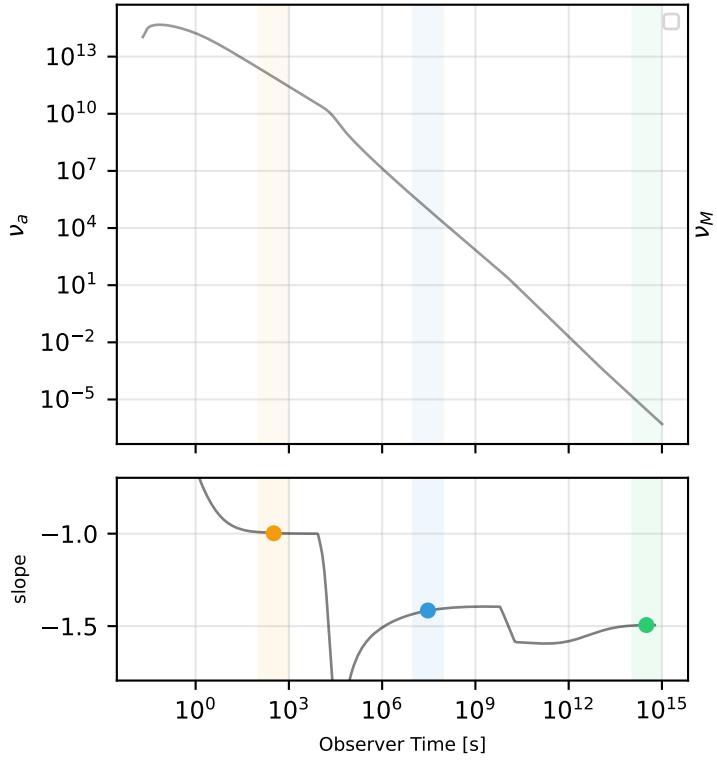
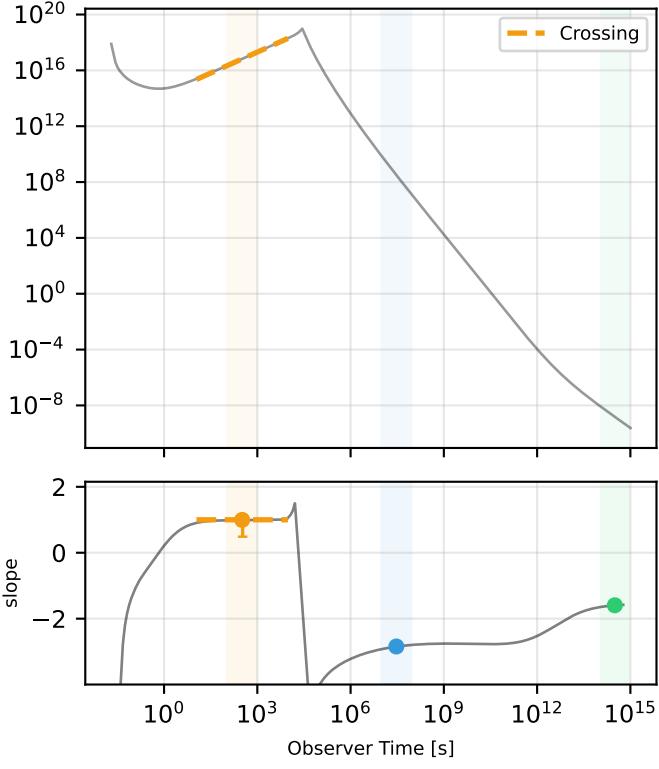
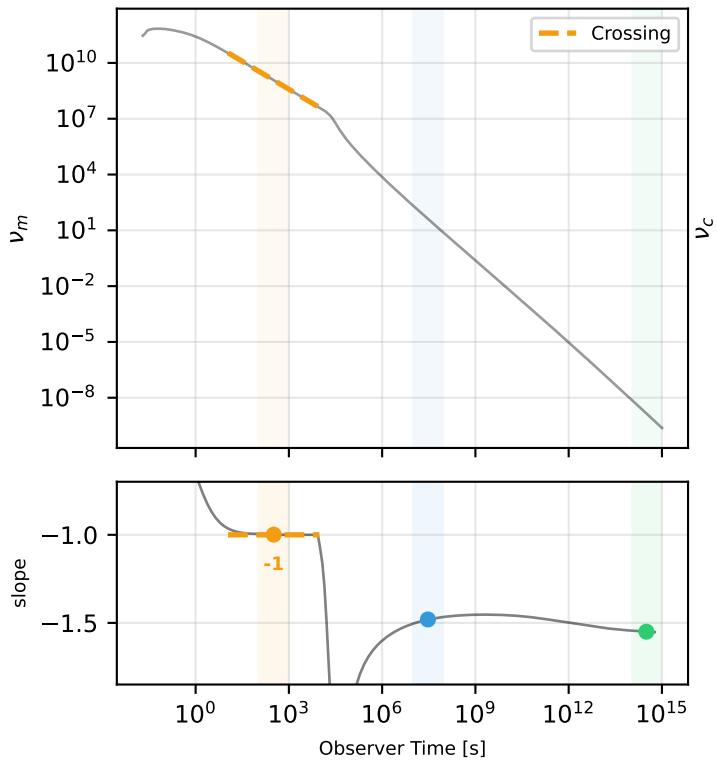
Reverse Shock Frequencies — Thin Shell: Wind



Reverse Shock Frequencies — Thick Shell: ISM



Reverse Shock Frequencies — Thick Shell: Wind



Section 2

Benchmark Results

Performance timing and resolution convergence analysis

Benchmark Report Guide

This document describes the benchmark validation framework for VegasAfterglow, which assesses numerical convergence and computational performance across physical configurations.

1. Configuration Space

The benchmark suite systematically tests a grid of physical scenarios and numerical settings to characterize code behavior across the parameter space relevant for GRB afterglow modeling.

1.1 Physical Parameters

| Parameter | Options | Description |
|-----------------|---|--|
| Jet Structure | tophat, gaussian, powerlaw, two_component | Angular energy profile |
| External Medium | ISM, Wind | Density profile: constant (ISM) or $\propto r^{-2}$ (Wind) |
| Radiation | synchrotron, full_ssc, fast_cooling, steep/flat_spectrum, rvs_sync_thin, rvs_sync_thick | Radiation physics |
| Viewing Angle | $\theta_v/\theta_c = 0, 2, 4$ | On-axis (0) vs off-axis (>1) |

1.2 Numerical Resolution

Resolution controls the discretization density in each computational dimension. The fiducial values represent the recommended default settings. Note that θ and t grids enforce a minimum total point count regardless of the ppd value, so low ppd settings may not reduce the actual grid size.

| Dimension | Symbol | Unit | Fiducial | Test Range |
|-----------------|----------|------------|----------|------------|
| Azimuthal angle | ϕ | per degree | 0.15 | 0.15 - 0.6 |
| Polar angle | θ | per degree | 0.5 | 0.5 - 2.0 |
| Observer time | t | per decade | 10 | 10 - 30 |

1.3 Frequency Bands

Convergence is evaluated independently at three representative frequencies spanning the electromagnetic spectrum.

| Band | Frequency (Hz) |
|-------|----------------|
| Radio | 10^9 |

| Band | Frequency (Hz) |
|---------|-----------------------|
| Optical | 4.84×10^{14} |
| X-ray | 10^{18} |

2. Convergence Criteria

Numerical accuracy is quantified by comparing results at each resolution to a high-resolution reference run. Both mean and maximum relative errors across the light curve are evaluated.

| Status | Criteria |
|------------|--------------------------------------|
| PASS | mean error < 5% AND max error < 15% |
| ACCEPTABLE | mean error < 5% AND max error >= 15% |
| FAIL | mean error >= 5% |

3. Summary Grid

The summary grid provides a compact overview of convergence status for all tested configurations on a single page.

3.1 Layout

Each cell represents one model configuration (jet, medium, viewing angle). Cells are arranged to facilitate comparison across jet types and viewing angles.

3.2 Cell Contents

| Line | Content |
|------|--|
| 1 | Model ID |
| 2 | Configuration shorthand (jet/medium/angle_ratio) |
| 3 | Maximum error at fiducial resolution |

3.3 Color Coding

| Color | Status |
|-------|------------|
| Green | PASS |
| Blue | ACCEPTABLE |
| Pink | FAIL |

| Color | Status |
|-------|---------|
| Gray | No data |

4. Overview Plots

The overview page provides performance profiling across configurations, helping identify computational bottlenecks and compare execution times.

4.1 Panel Layout

| Position | Content |
|--------------|--|
| Top-left | Light curve computation time by jet type |
| Top-right | Stage breakdown (profiling build) or resolution cost scaling |
| Bottom-left | Medium comparison (ISM vs Wind) |
| Bottom-right | Wind/ISM speed ratio |

4.2 Timing Metric

Each configuration is timed by computing a 30-point broadband light curve ($t = 10^2$ to 10^8 s) at the fiducial resolution. The reported time includes dynamics computation and flux evaluation in a single `flux_density` call.

4.3 Stage Breakdown

When built with profiling enabled (`pip install -e ".[test]" --config-settings=cmake.define.AFTERGLOW_PROFILE=ON`), the top-right panel shows a stacked bar chart of per-stage CPU cost for each jet/medium combination. The stages correspond to the internal C++ computation pipeline:

| Stage | Description |
|----------------|---------------------------------------|
| mesh | Coordinate grid generation |
| shock_dynamics | Forward/reverse shock ODE integration |
| EAT_grid | Equal arrival time surface grid |
| syn_electrons | Synchrotron electron distribution |
| syn_photons | Synchrotron photon spectrum |
| cooling | SSC/IC cooling corrections |
| sync_flux | Synchrotron flux integration |
| ic_photons | Inverse Compton photon spectrum |

| Stage | Description |
|----------|----------------------|
| ssc_flux | SSC flux integration |

Without profiling, the panel falls back to showing total resolution cost scaling.

5. Per-Model Convergence Pages

Each configuration receives a detailed convergence analysis page showing how accuracy and performance vary with resolution.

5.1 Row Contents

The page displays a 4x3 grid where each column corresponds to one resolution dimension (ϕ , θ , t) and each row shows a different metric.

| Row | Y-axis | Threshold |
|-----|------------------------|-----------|
| 1 | Maximum relative error | 15% |
| 2 | Mean relative error | 5% |
| 3 | CPU time (ms) | - |
| 4 | Flux (mJy) | - |

5.2 Plot Features

| Feature | Meaning |
|---------------|----------------------------|
| Star marker | Fiducial resolution |
| Dashed line | Error threshold |
| Solid curves | Resolution \geq fiducial |
| Dotted curves | Resolution $<$ fiducial |

5.3 Status Indicator

The page header displays convergence status with color coding matching Section 3.3.

6. Interpreting Results

6.1 Light Curve Convergence

The bottom row plots all tested resolutions together on the same axes. Visual spread between curves indicates resolution dependence.

| Pattern | Interpretation |
|-----------------------------|--|
| No spread (curves overlap) | Converged |
| Spread in dashed lines only | Not converged below fiducial, acceptable at fiducial |
| Spread in solid lines | Not converged even above fiducial resolution |

6.2 Error Convergence

The top two rows show how errors decrease as resolution increases. The shape of these curves indicates convergence quality.

| Pattern | Interpretation |
|--------------------|-------------------------------------|
| Monotonic decrease | Stable convergence |
| Plateau | Noise floor or discretization limit |
| Non-monotonic | Potential numerical instability |

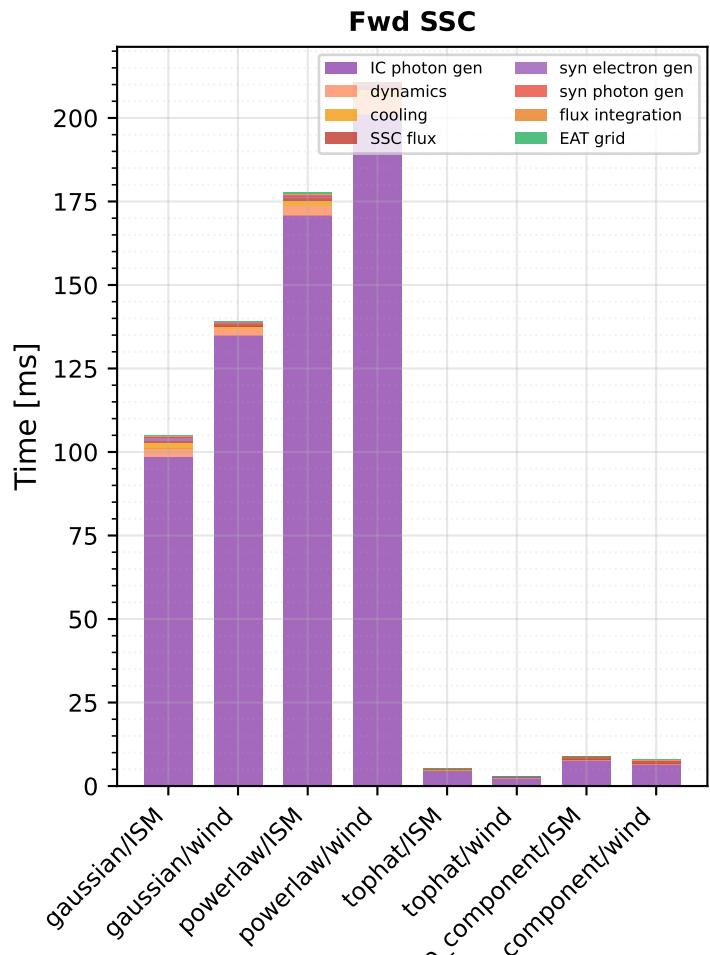
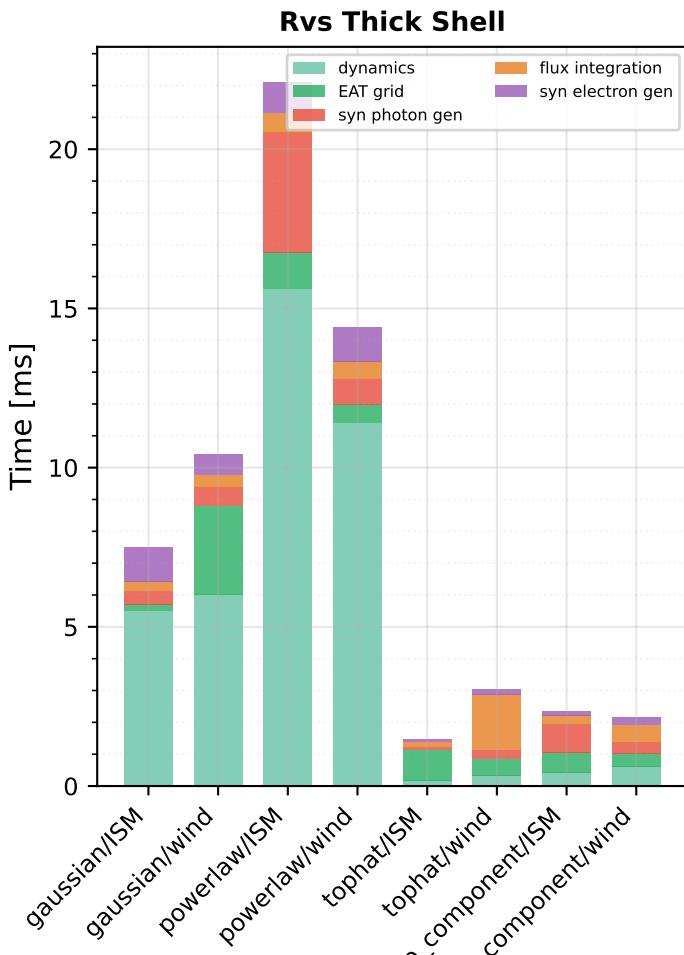
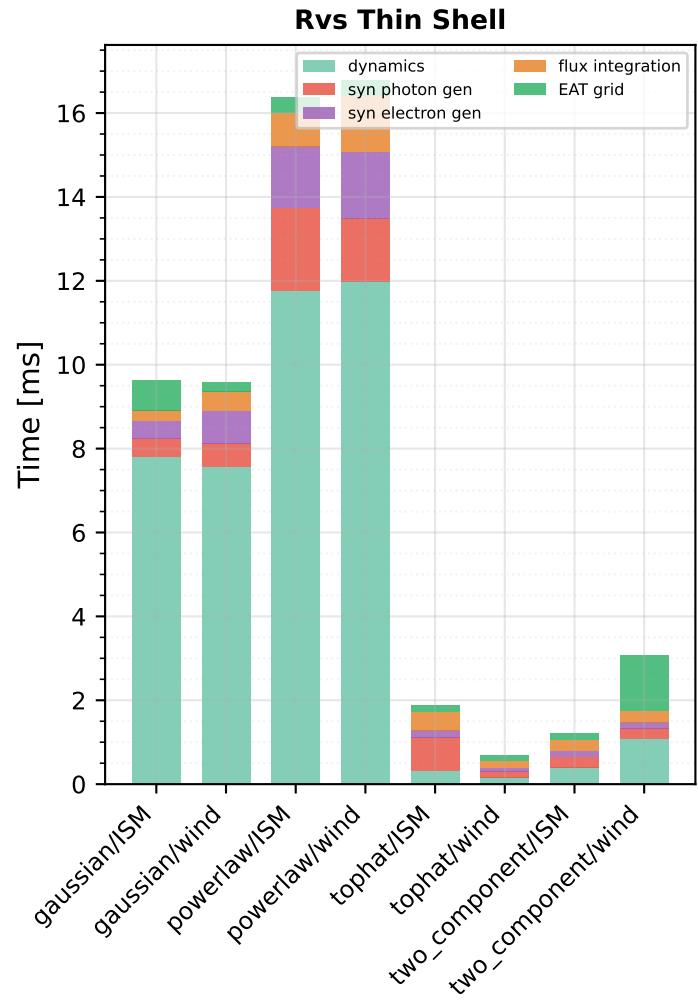
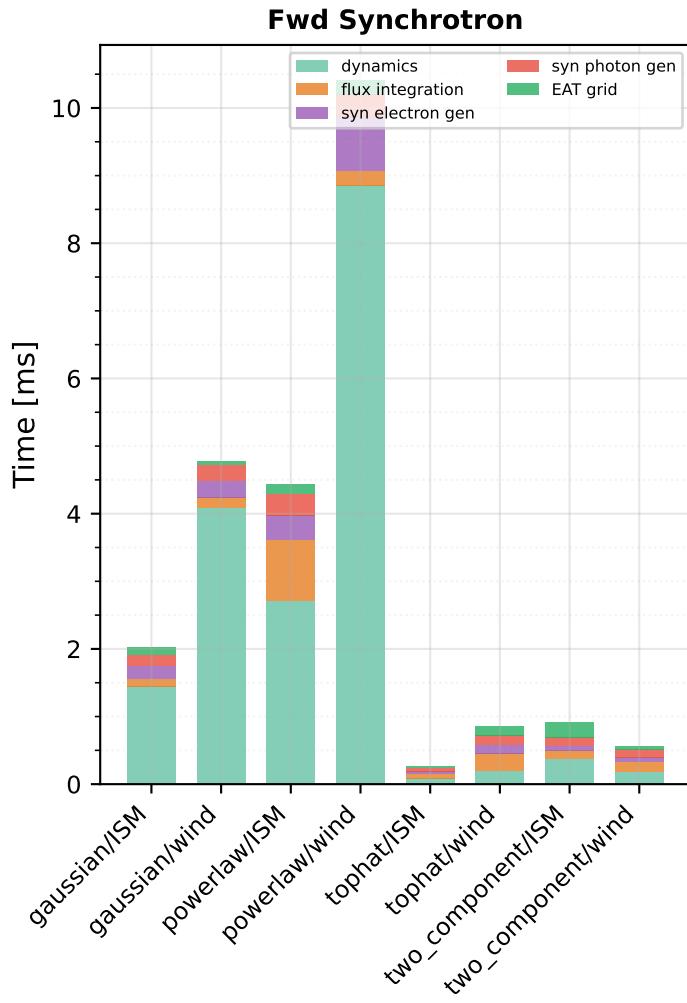
6.3 Performance Scaling

Computational cost typically scales as:

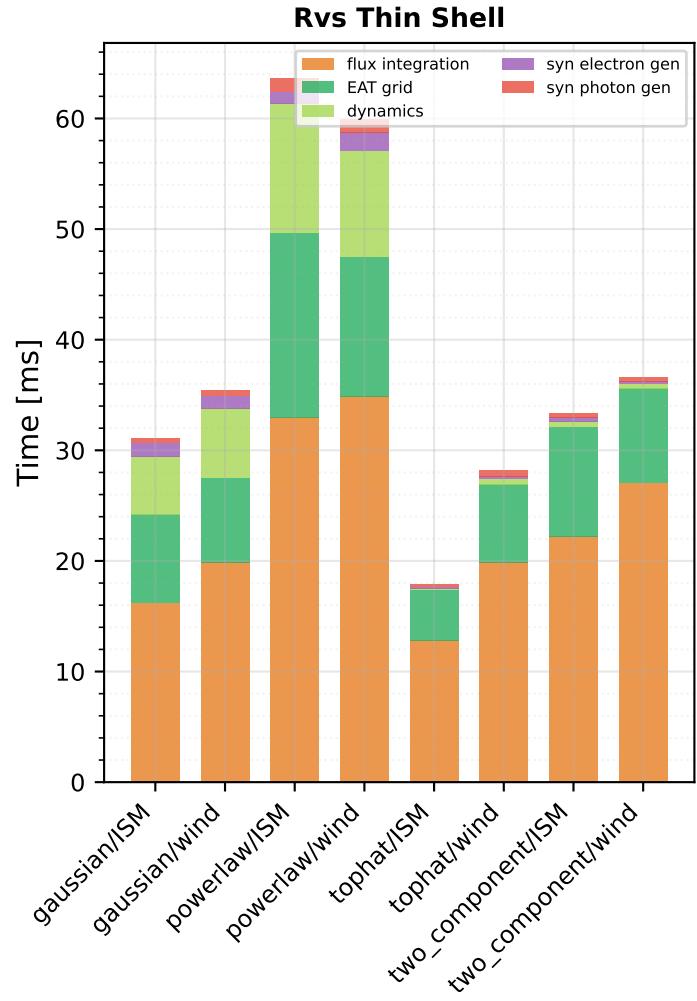
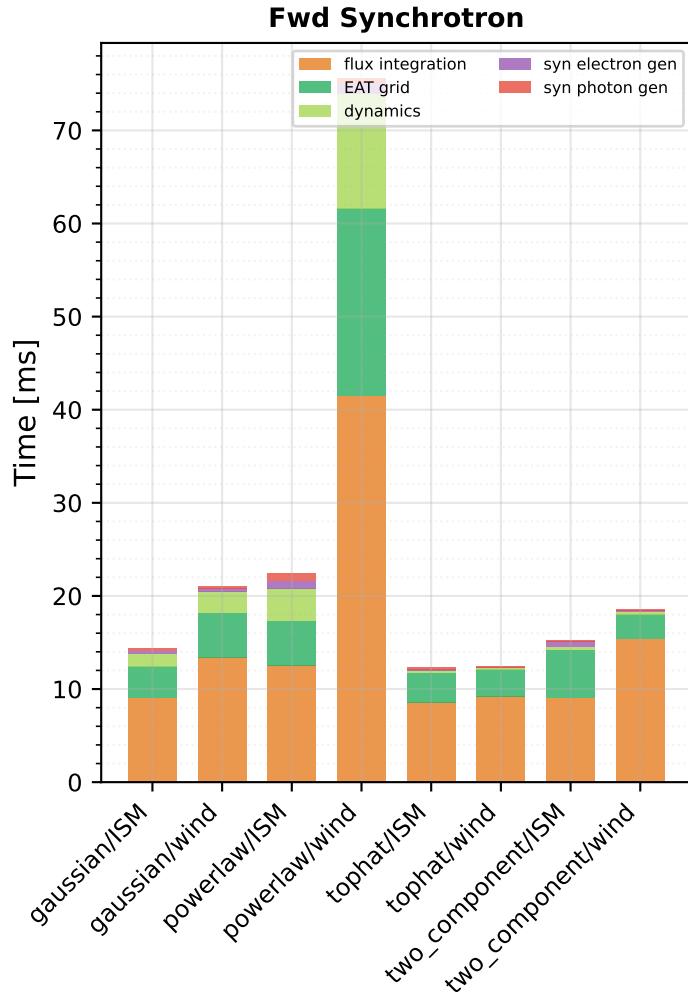
- Linear with time resolution ($t_p \text{pd}$)
- Quadratic with angular resolution ($\phi_p \text{pd} \times \theta_p \text{pd}$)

Wind medium simulations generally require more computation due to the radially-varying density profile. However, the medium-aware adaptive grid often produces smaller grids for wind (earlier deceleration time), which can offset this cost.

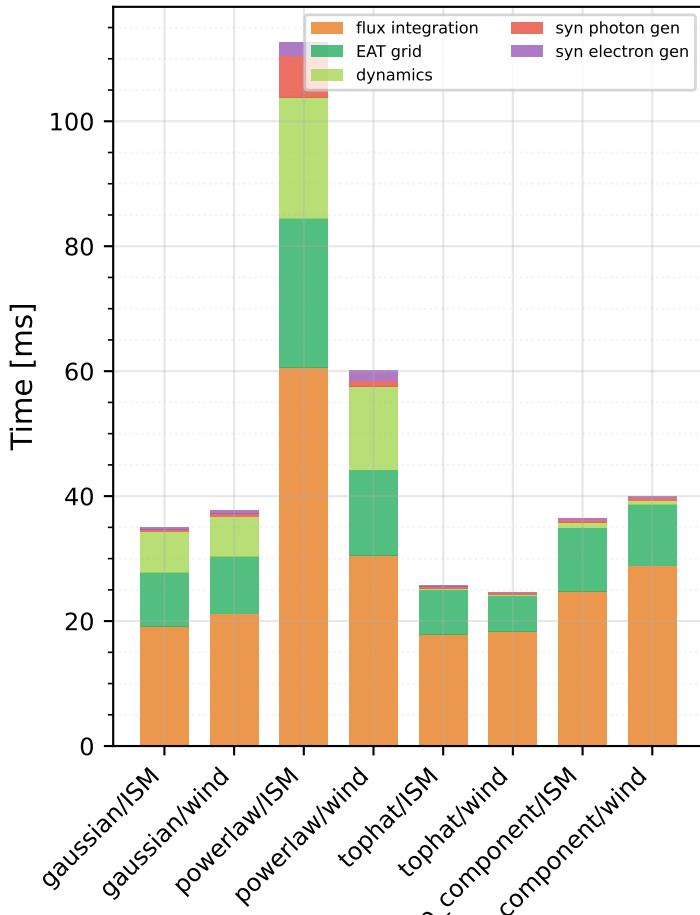
Benchmark Overview (On-axis, $\theta_v=0$)



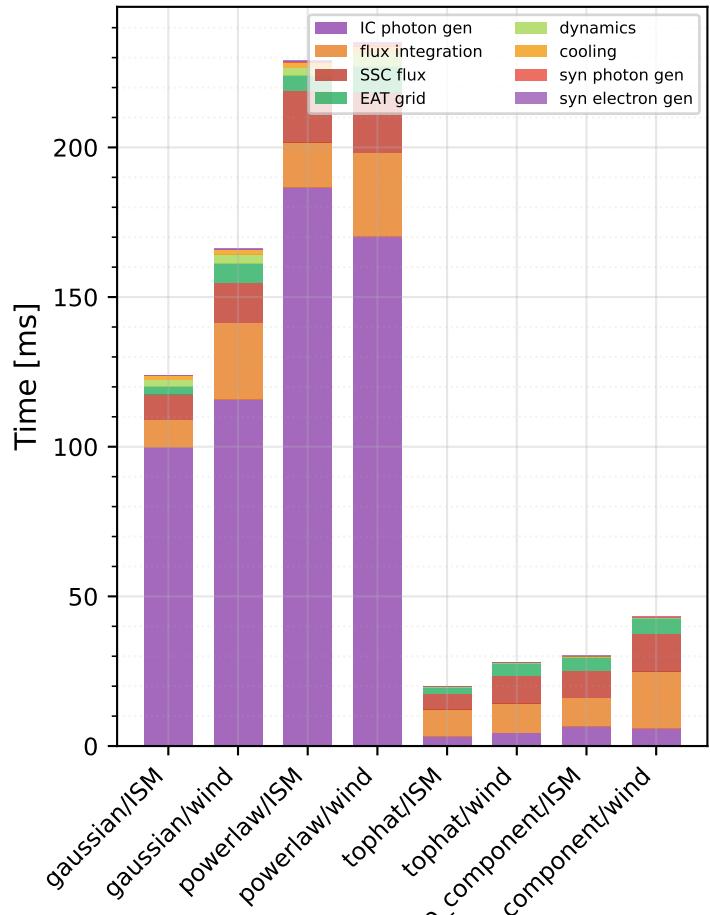
Benchmark Overview (Off-axis, $\theta_v/\theta_c > 1$)



Rvs Thick Shell



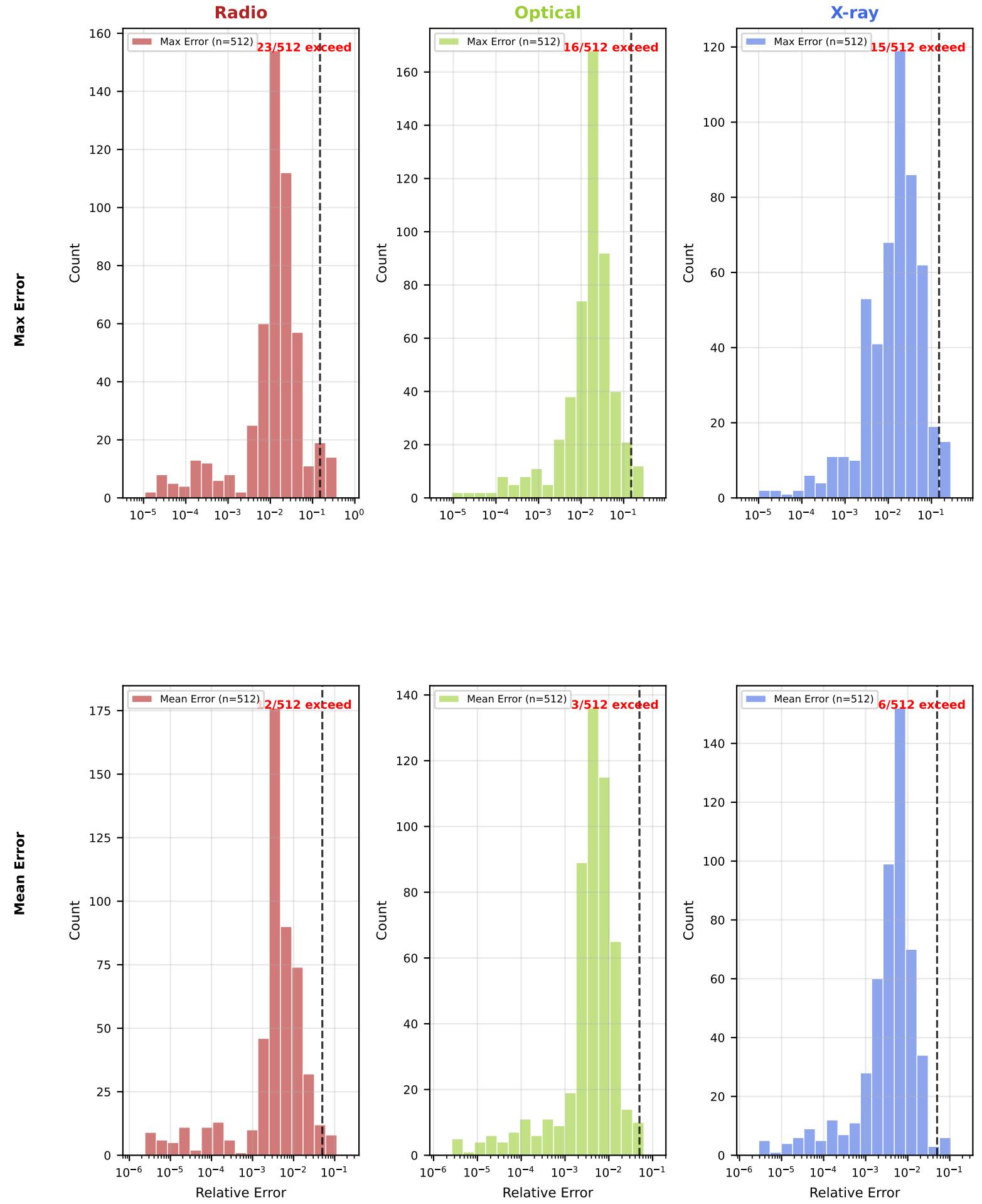
Fwd SSC



Resolution Convergence Summary

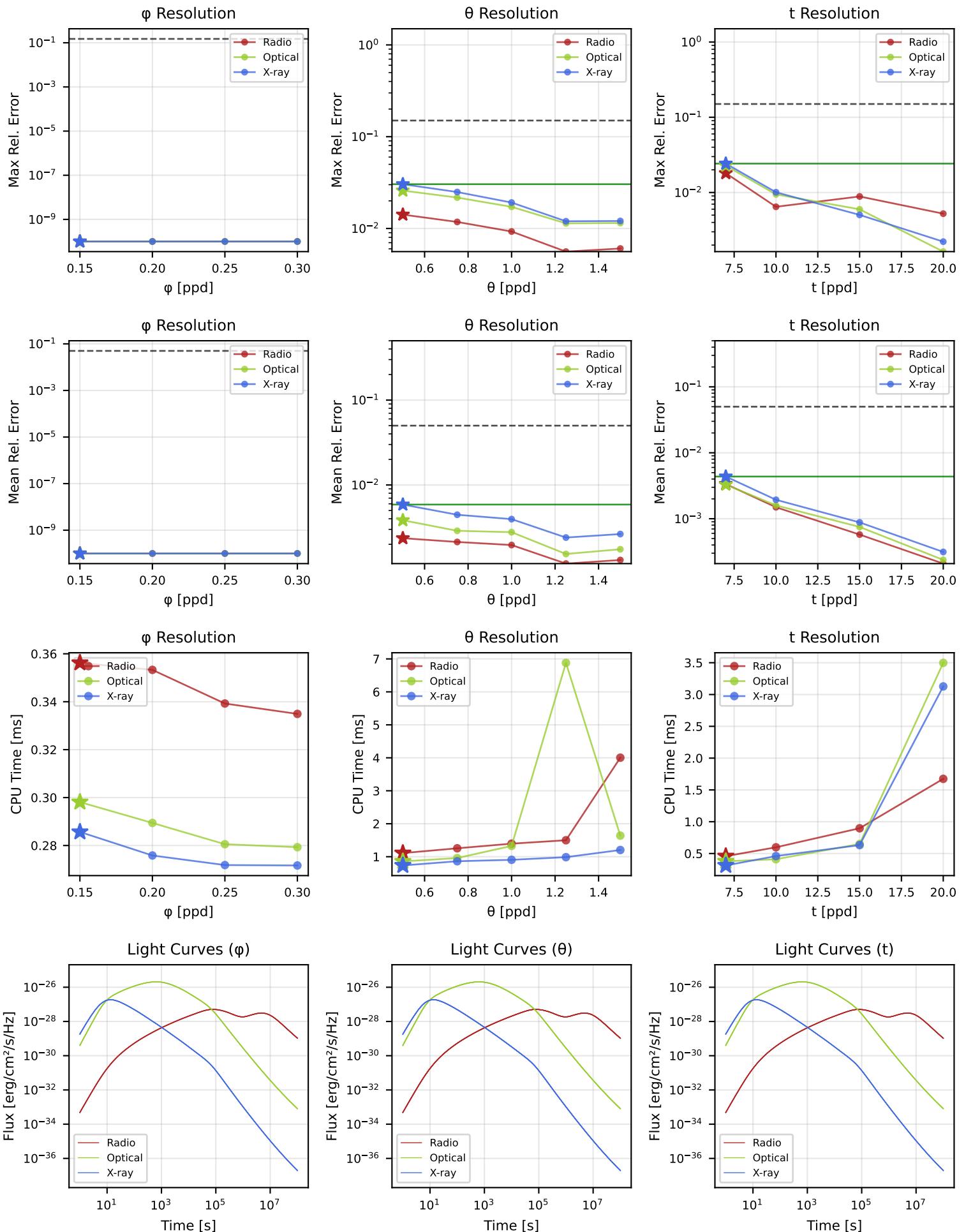
Pass: 164 | Acceptable: 10 | Fail: 18 | No Data: 0

Error Distribution Across All Configurations



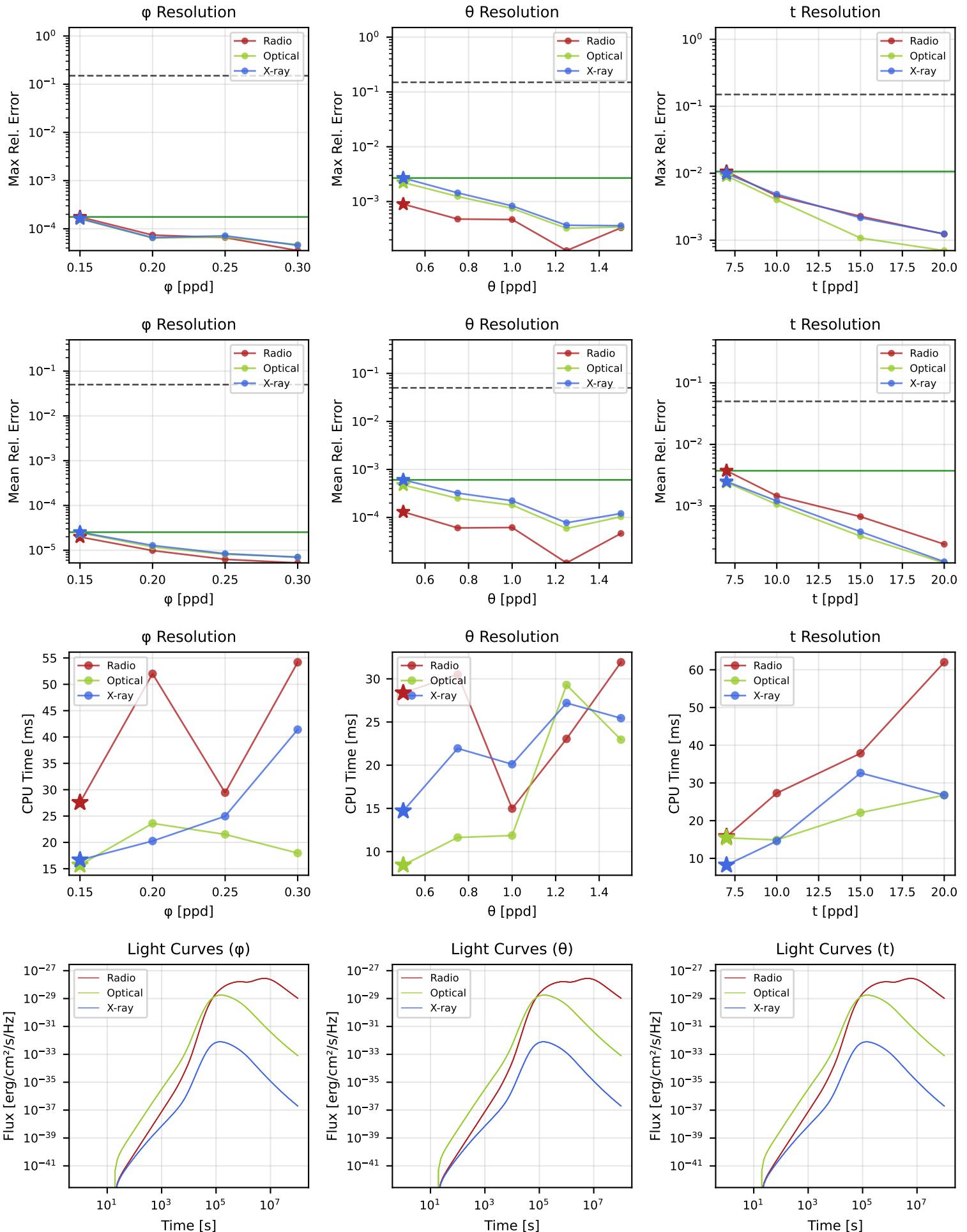
[PASS]

#1: tophat / ISM / synchrotron / $\theta_v/\theta_c=0.0$



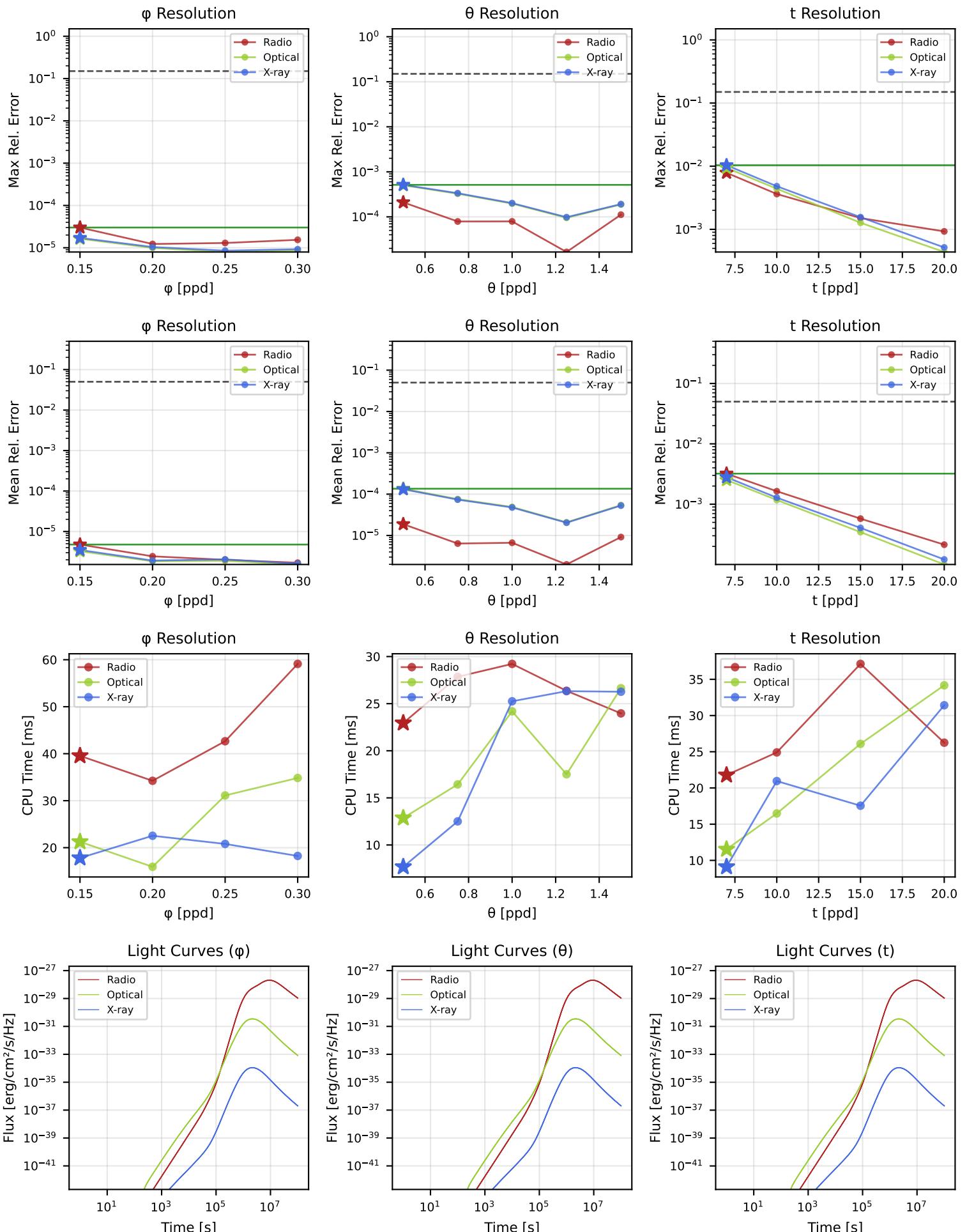
[PASS]

#2: tophat / ISM / synchrotron / $\theta_v/\theta_c=2.0$



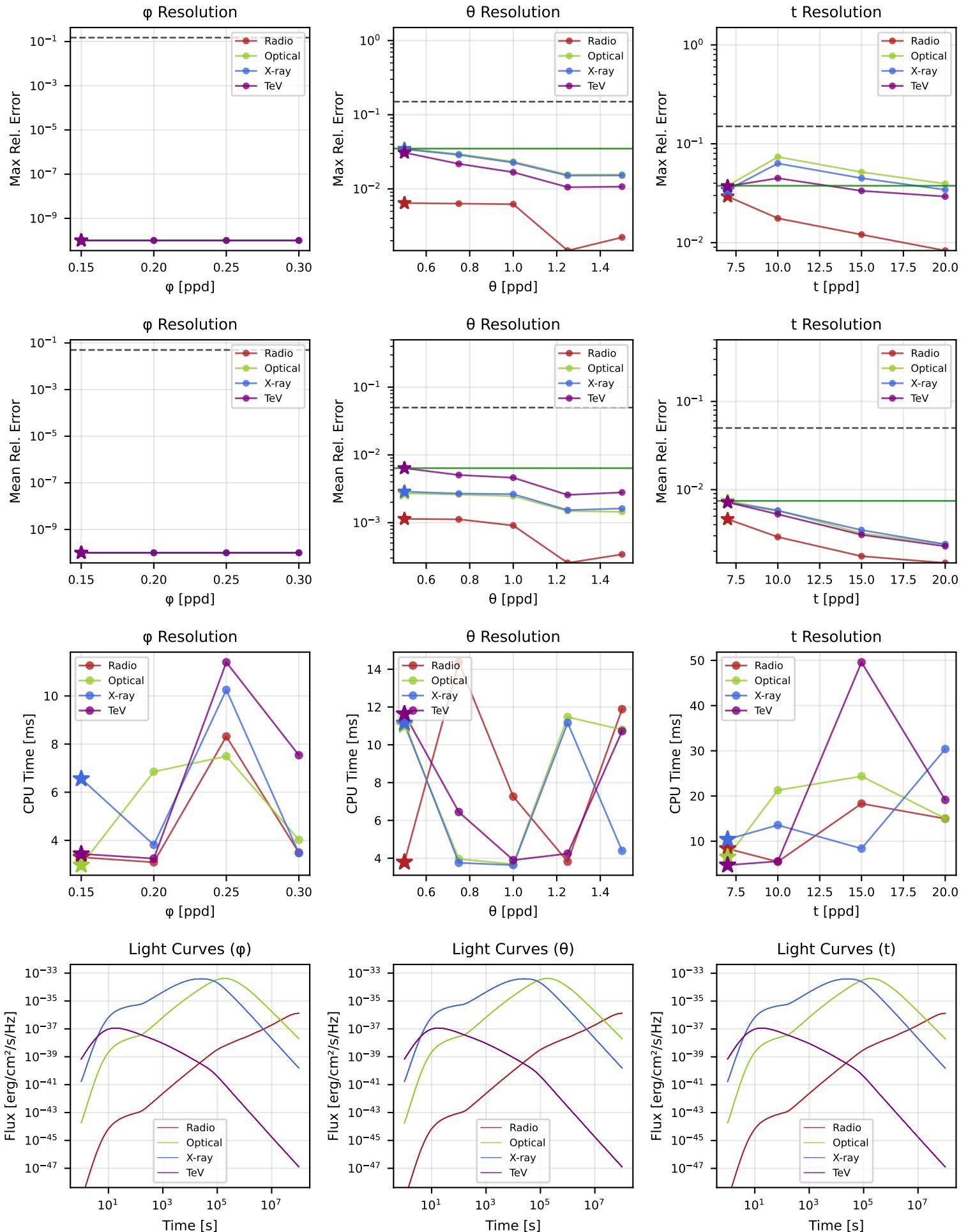
[PASS]

#3: tophat / ISM / synchrotron / $\theta_v/\theta_c=4.0$



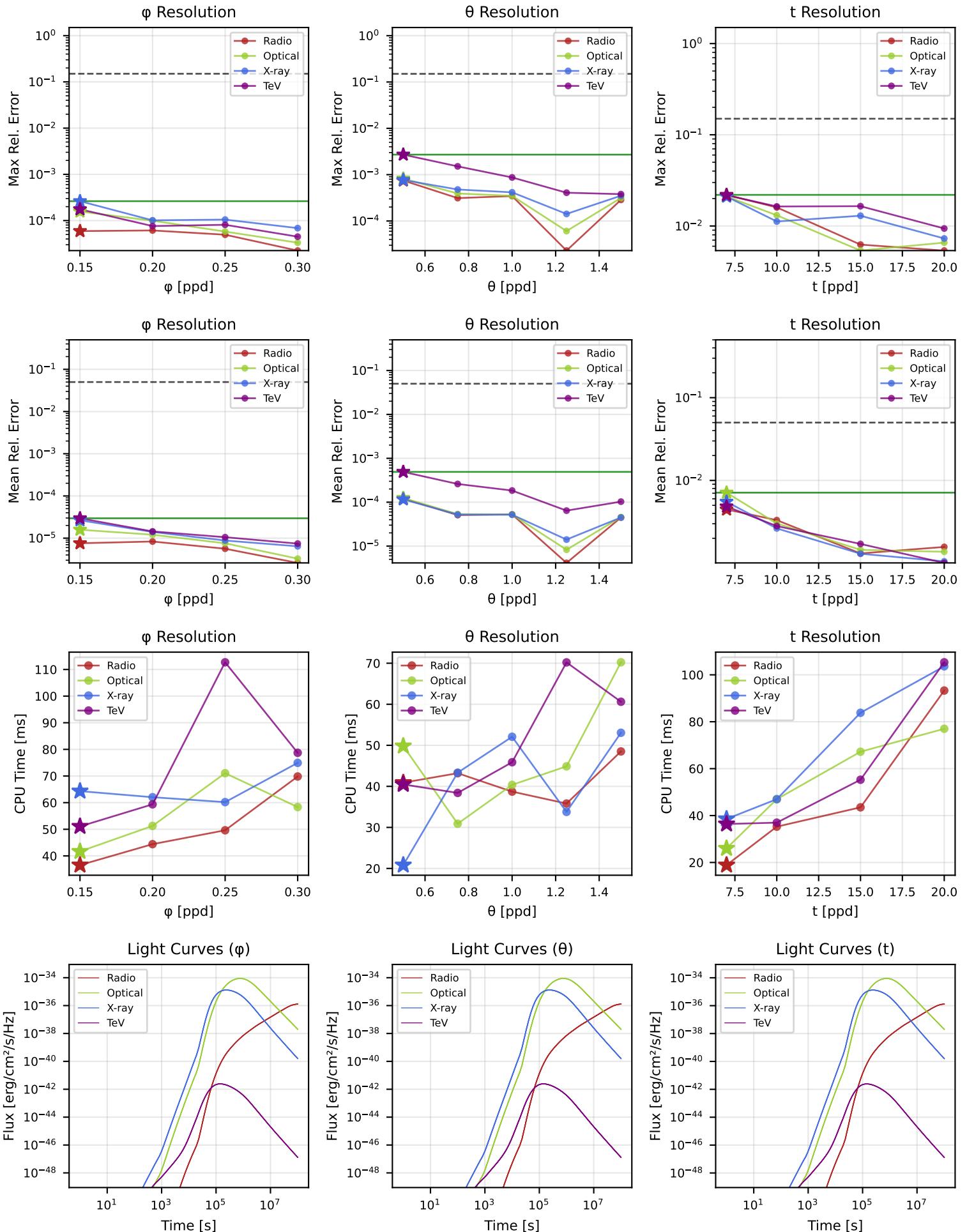
[PASS]

#4: tophat / ISM / full_ssc / $\theta_v/\theta_c=0.0$



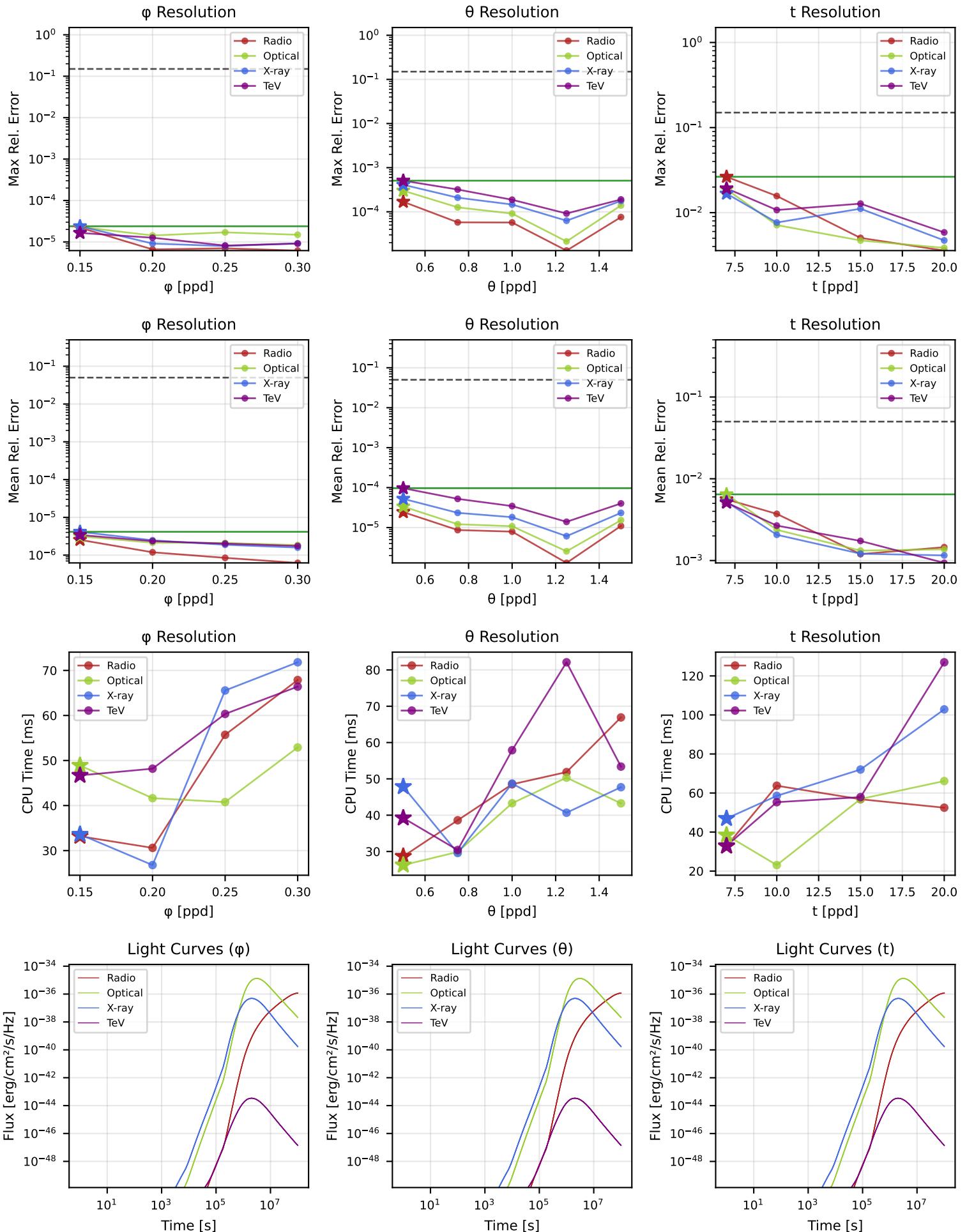
[PASS]

#5: tophat / ISM / full_ssc / $\theta_v/\theta_c=2.0$



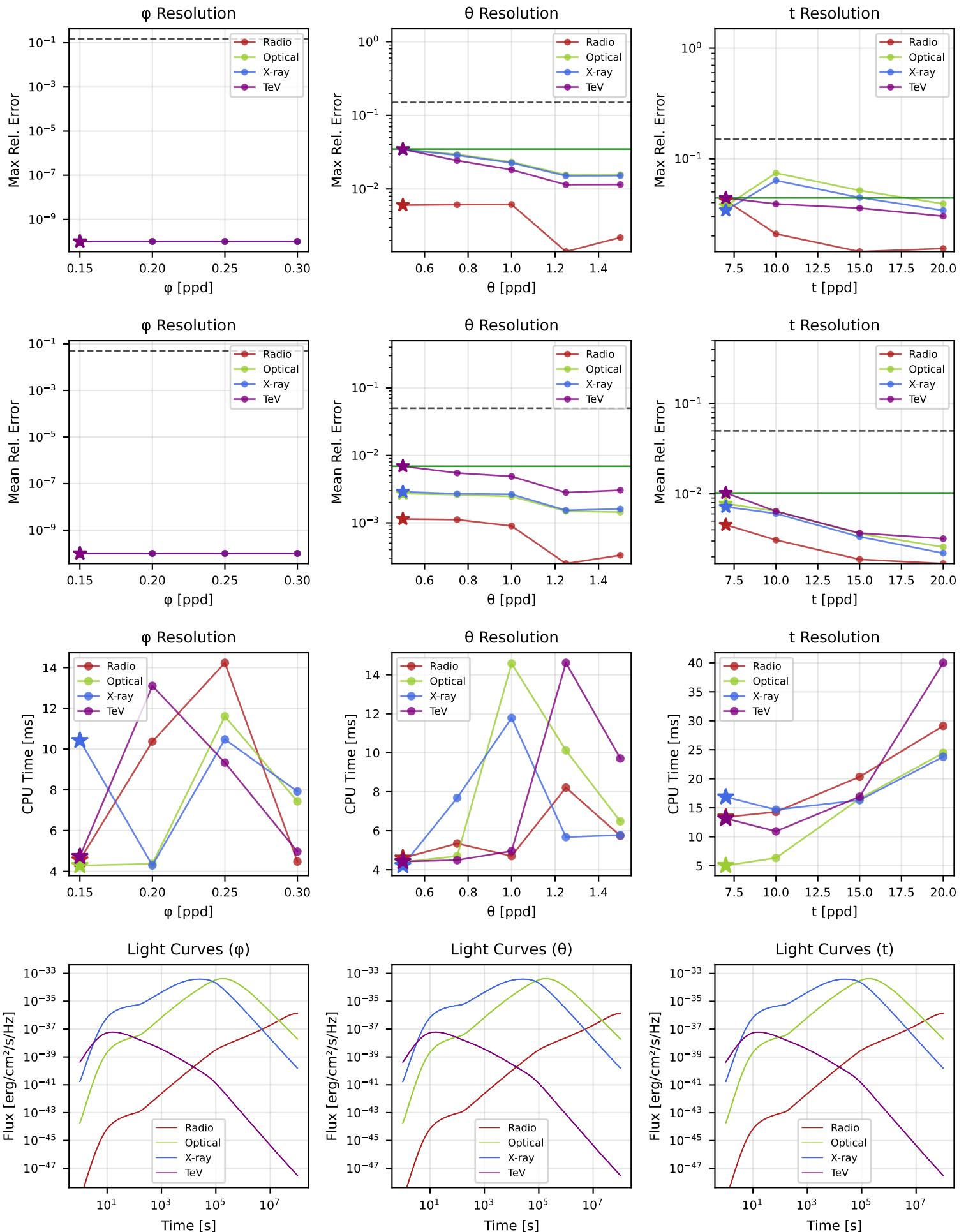
[PASS]

#6: tophat / ISM / full_ssc / $\theta_v/\theta_c=4.0$



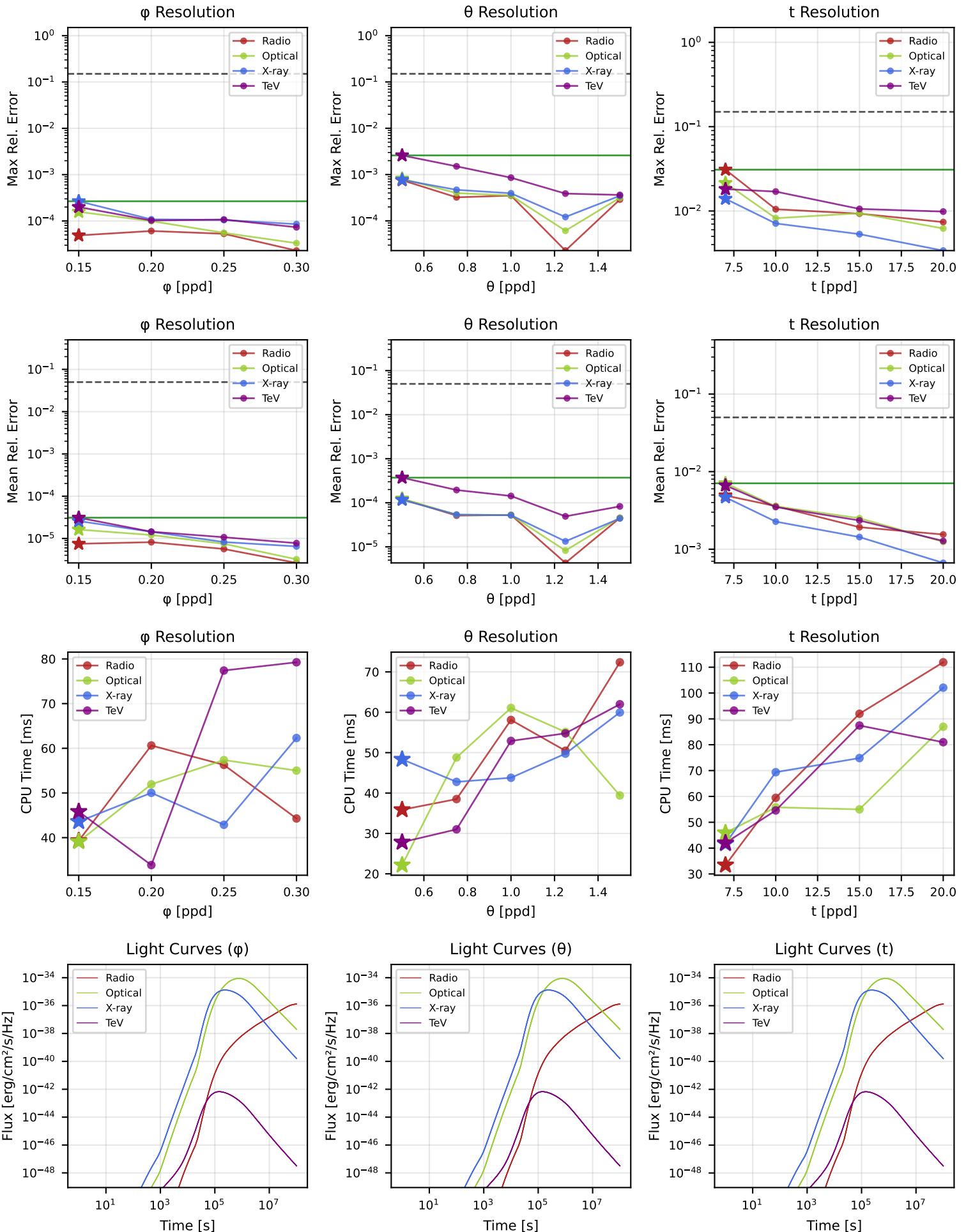
[PASS]

#7: tophat / ISM / ssc_kn / $\theta_v/\theta_c=0.0$



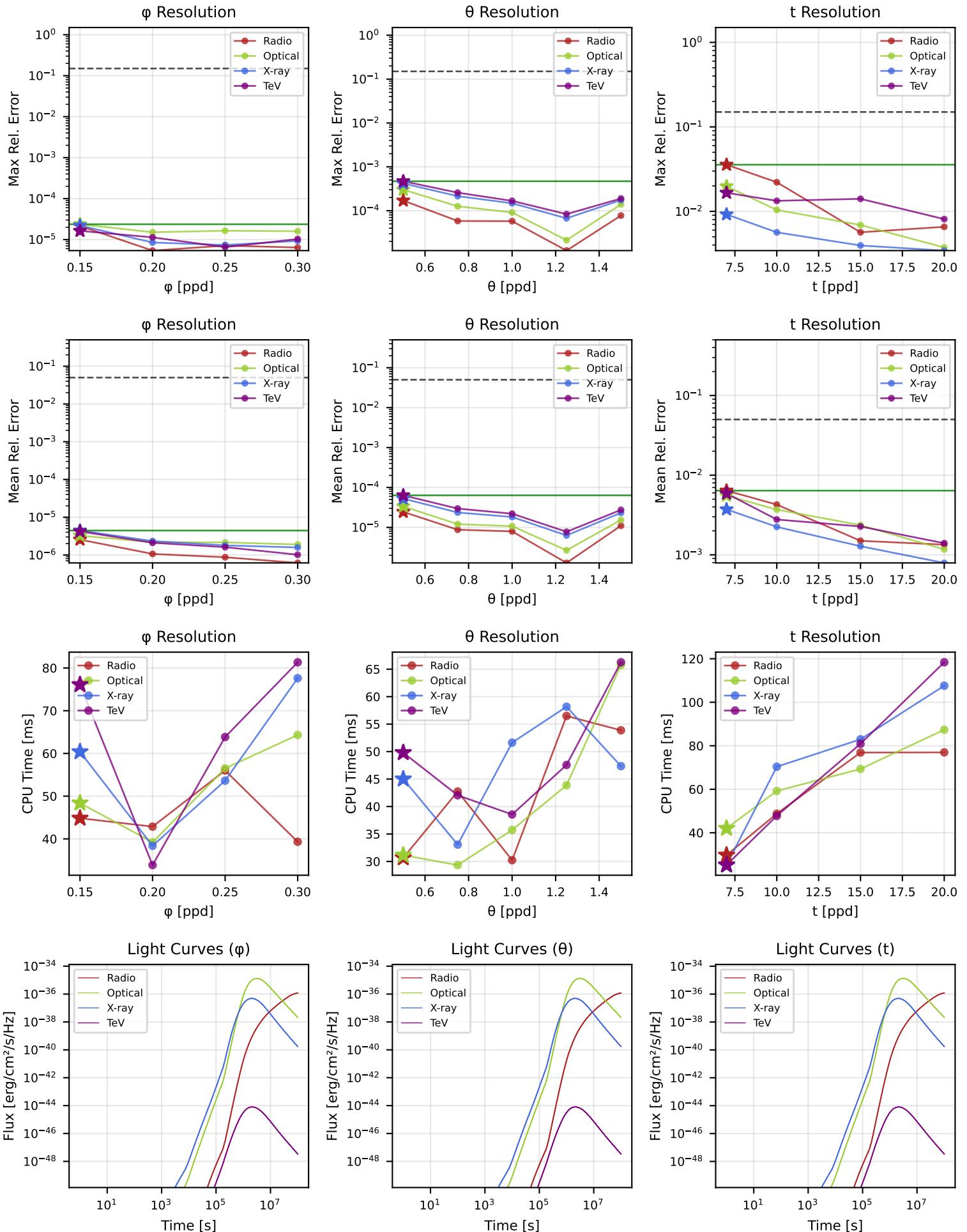
[PASS]

#8: tophat / ISM / ssc_kn / $\theta_v/\theta_c=2.0$



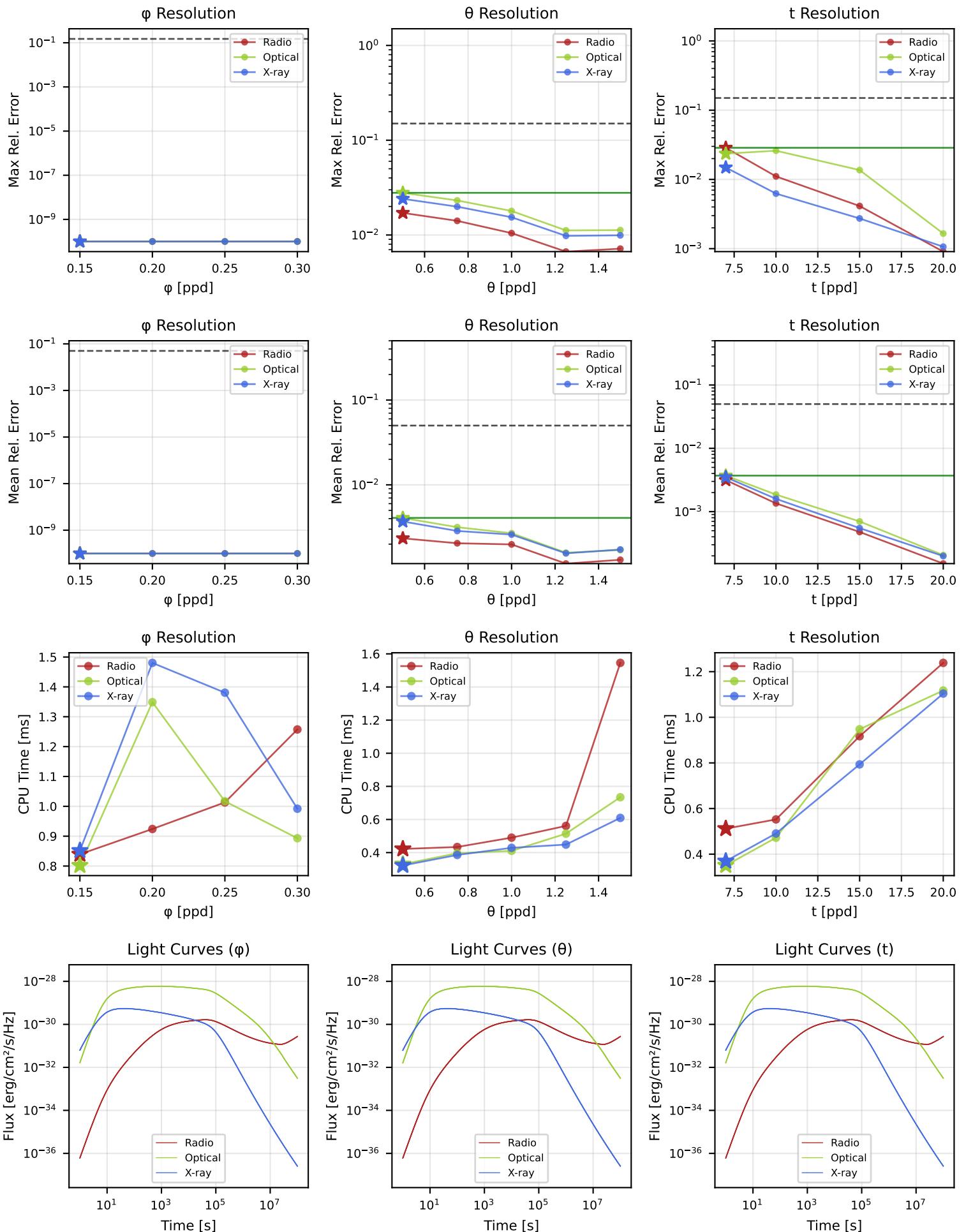
[PASS]

#9: tophat / ISM / ssc_kn / $\theta_v/\theta_c=4.0$



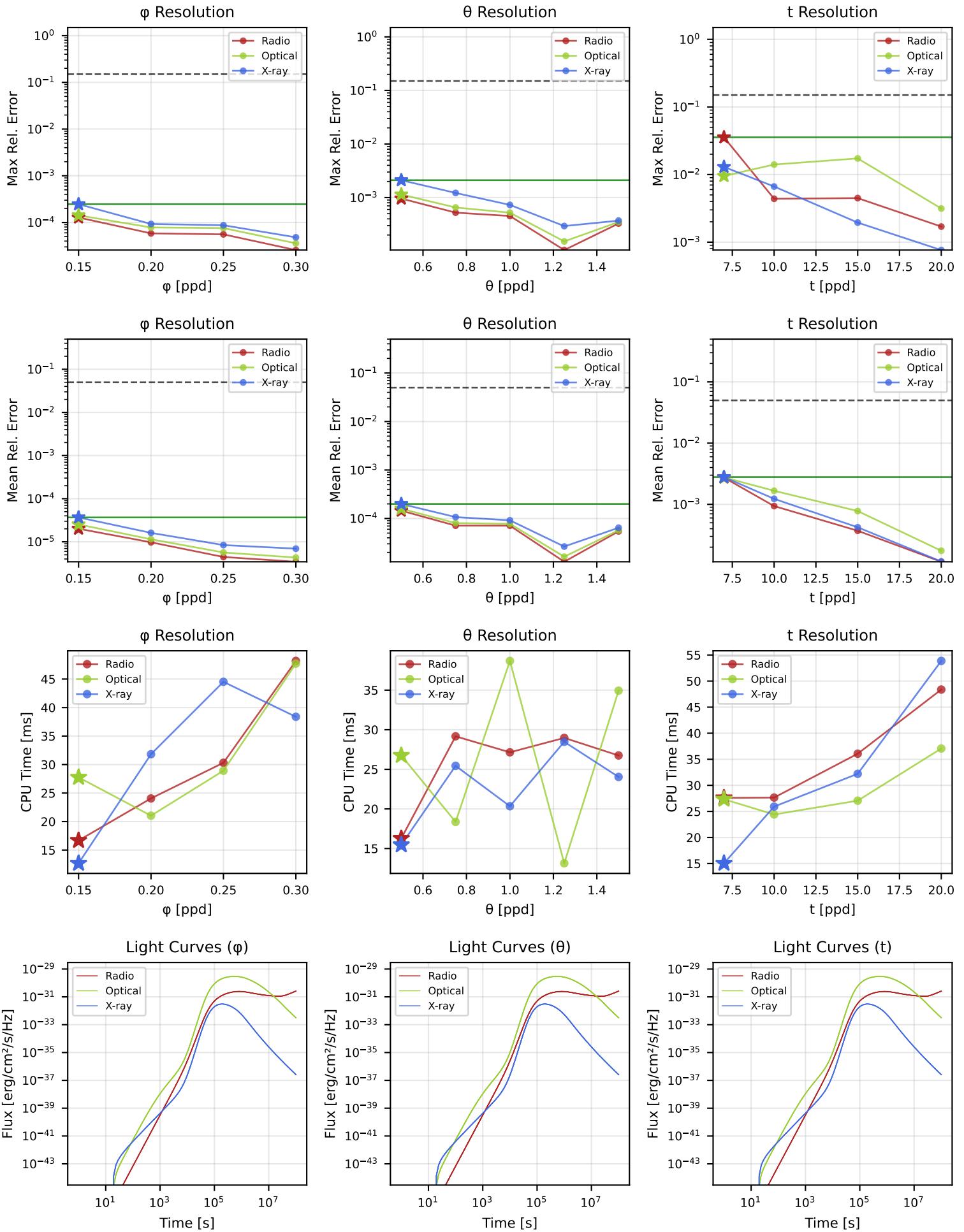
[PASS]

#10: tophat / ISM / fast_cooling / $\theta_v/\theta_c=0.0$



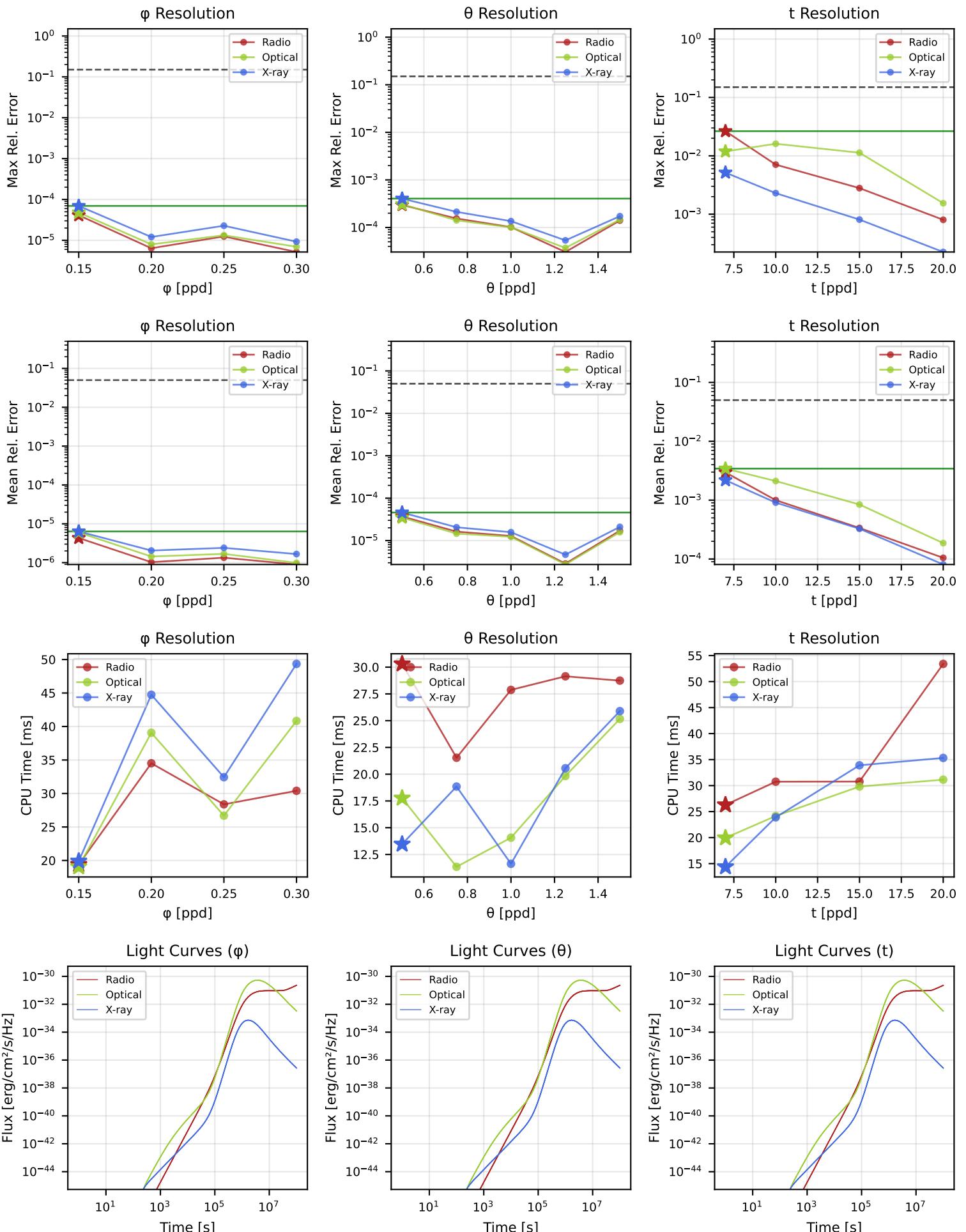
[PASS]

#11: tophat / ISM / fast_cooling / $\theta_v/\theta_c=2.0$



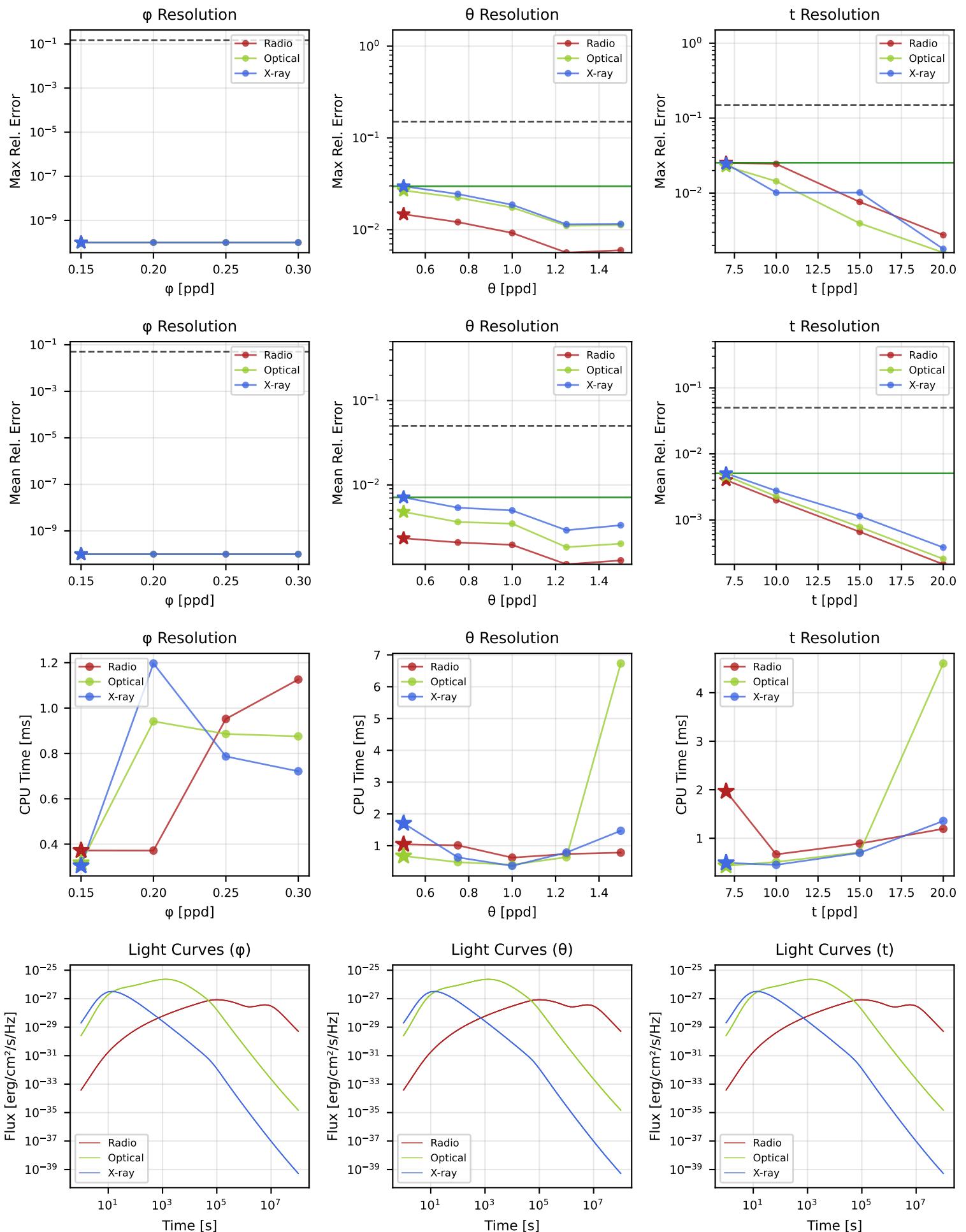
[PASS]

#12: tophat / ISM / fast_cooling / $\theta_v/\theta_c=4.0$



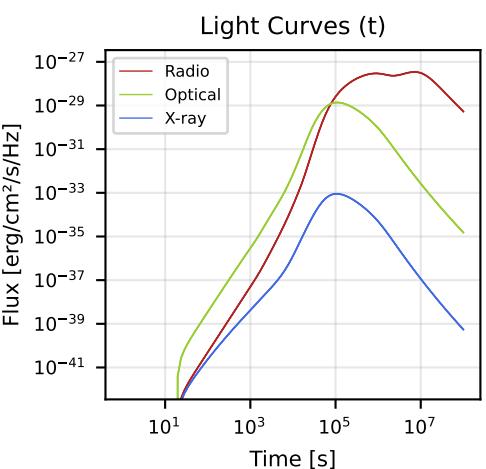
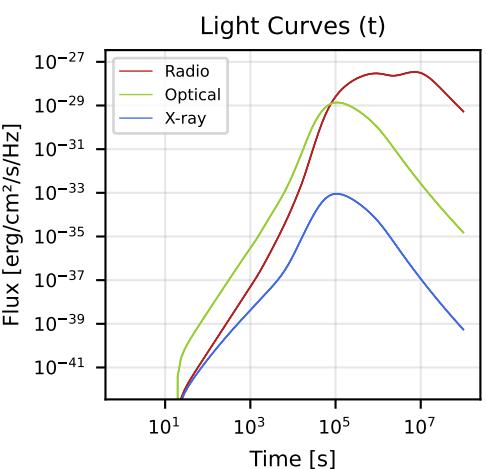
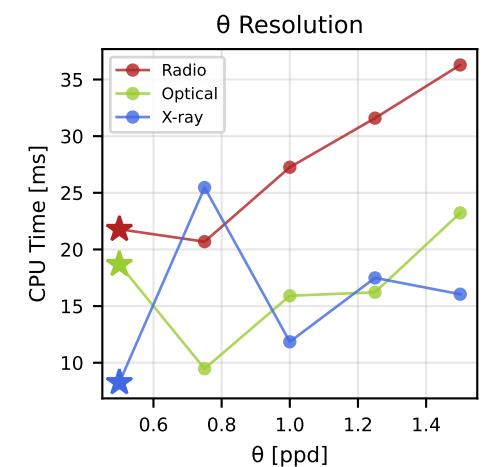
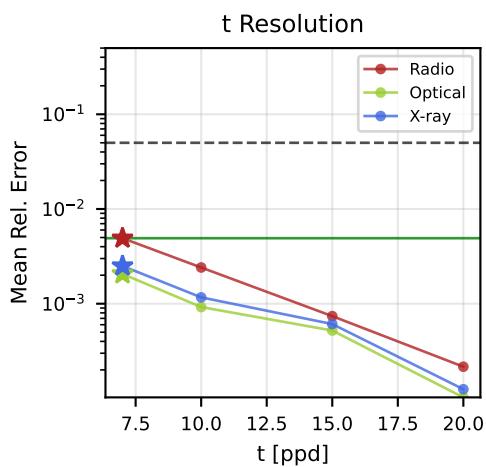
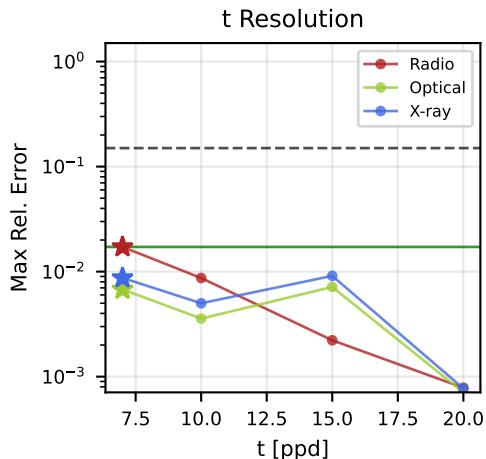
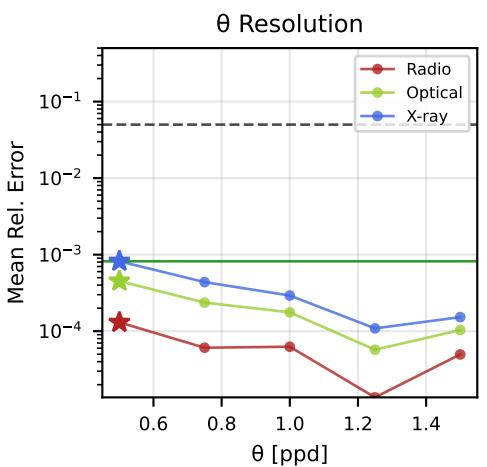
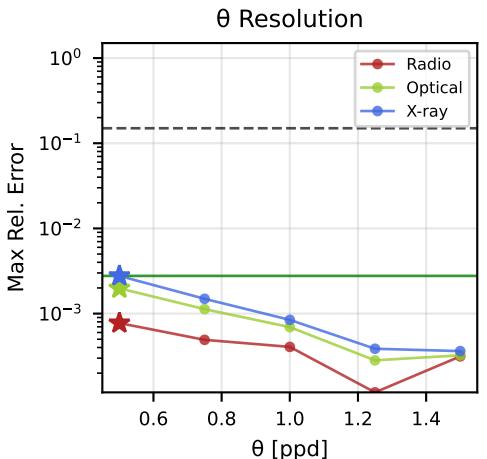
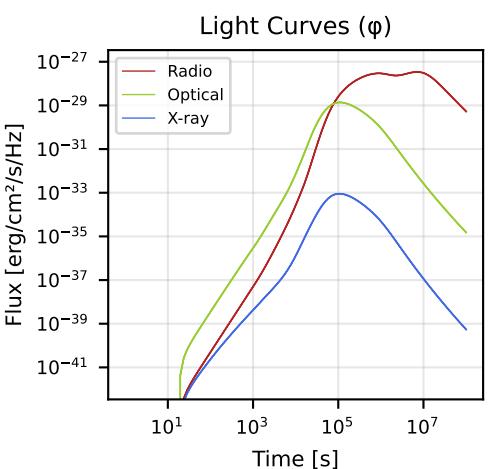
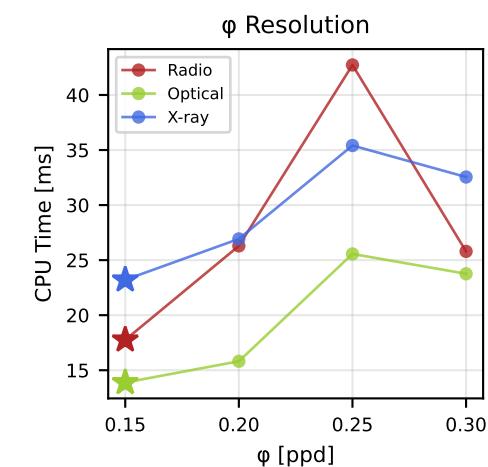
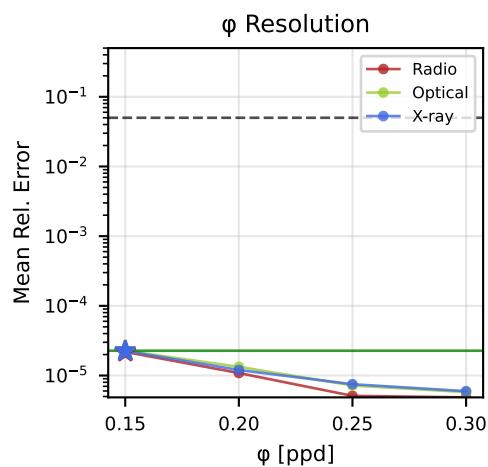
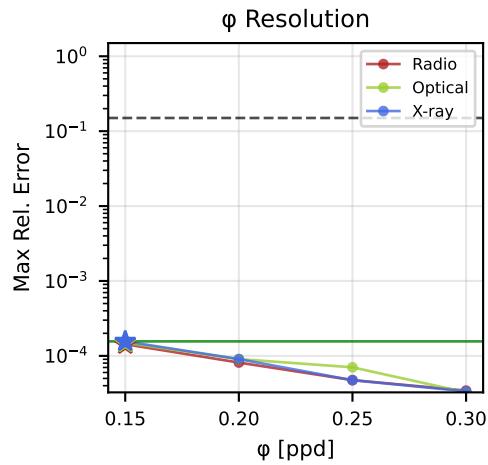
[PASS]

#13: tophat / ISM / steep_spectrum / $\theta_v/\theta_c=0.0$



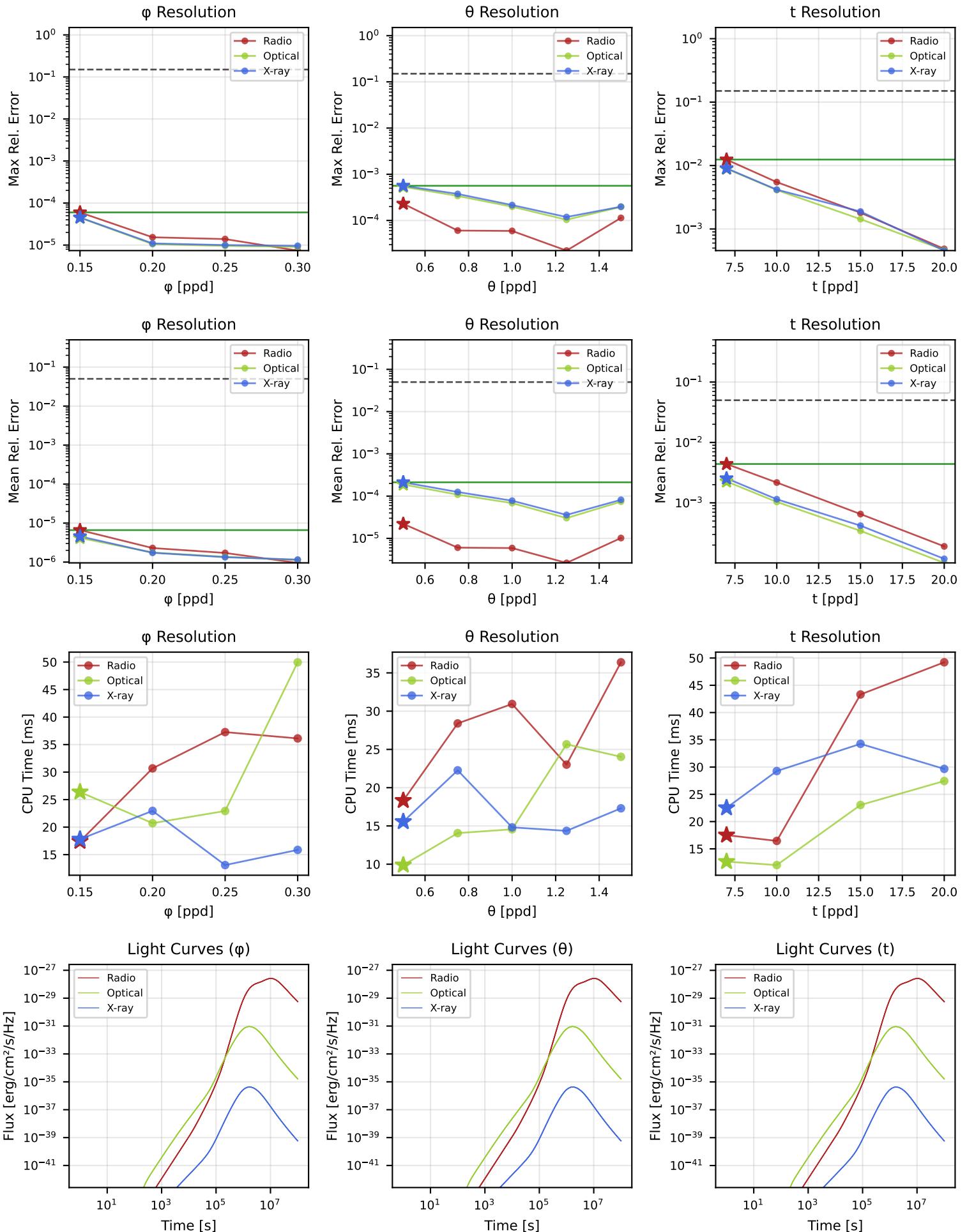
[PASS]

#14: tophat / ISM / steep_spectrum / $\theta_v/\theta_c=2.0$



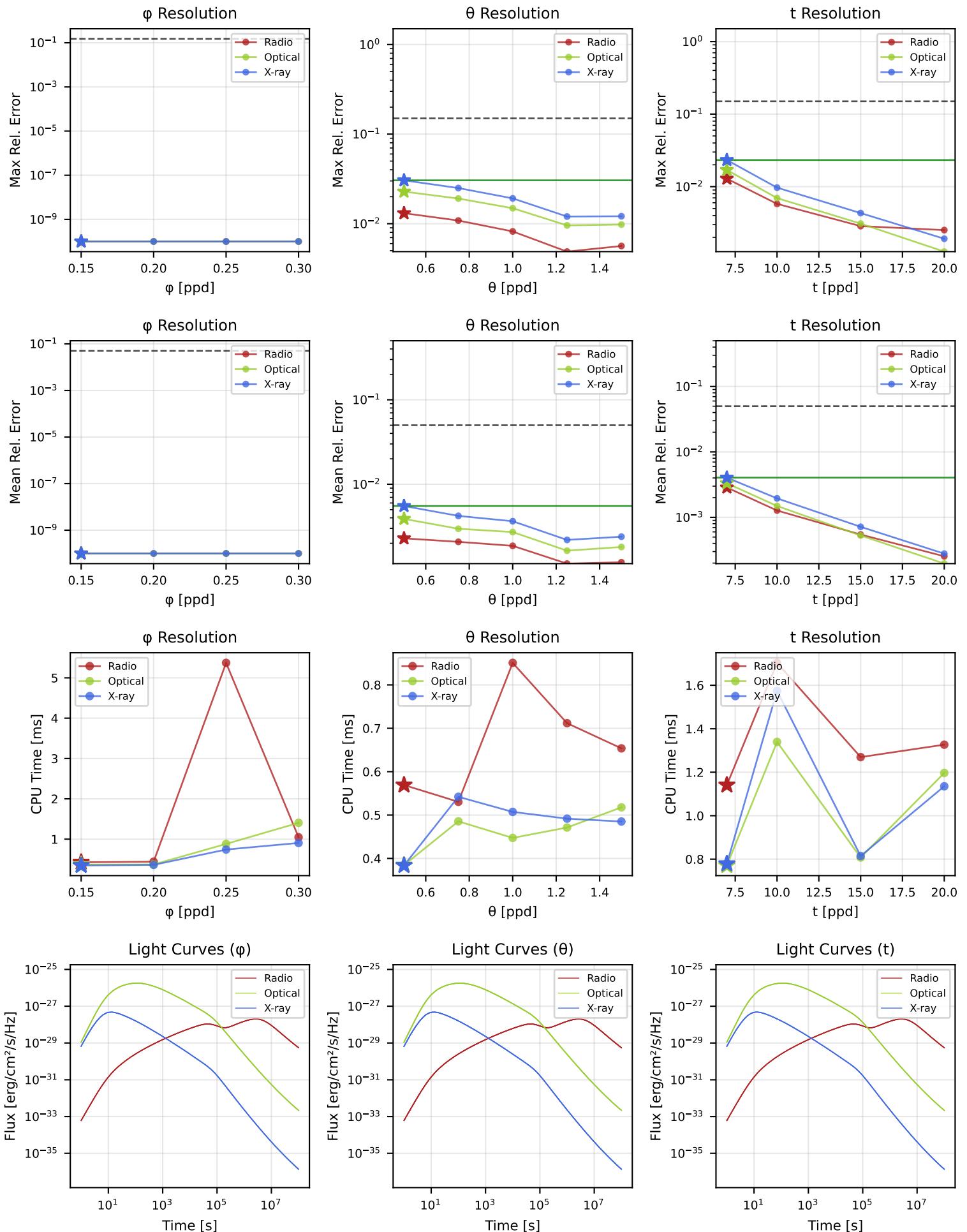
[PASS]

#15: tophat / ISM / steep_spectrum / $\theta_v/\theta_c=4.0$



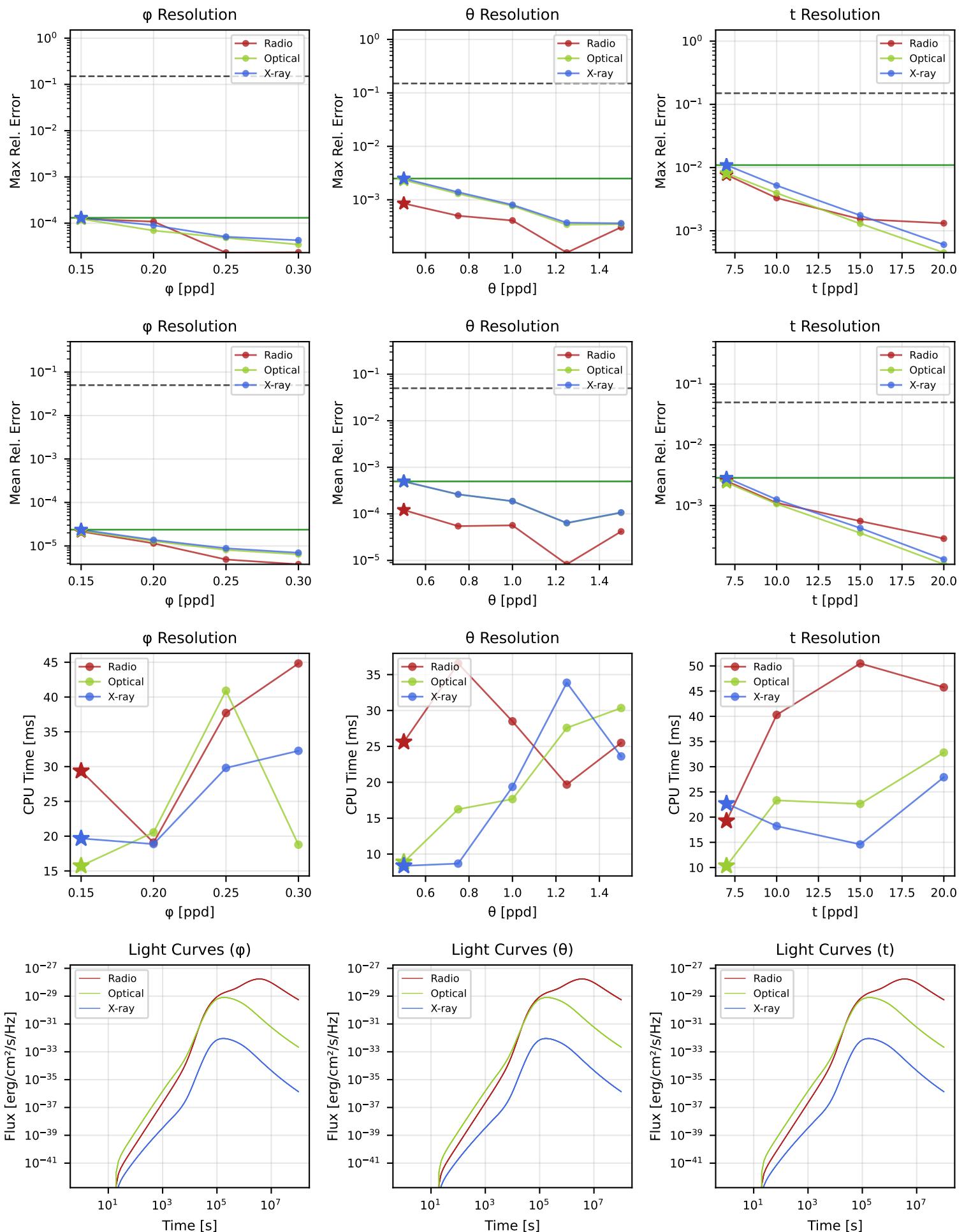
[PASS]

#16: tophat / ISM / flat_spectrum / $\theta_v/\theta_c=0.0$



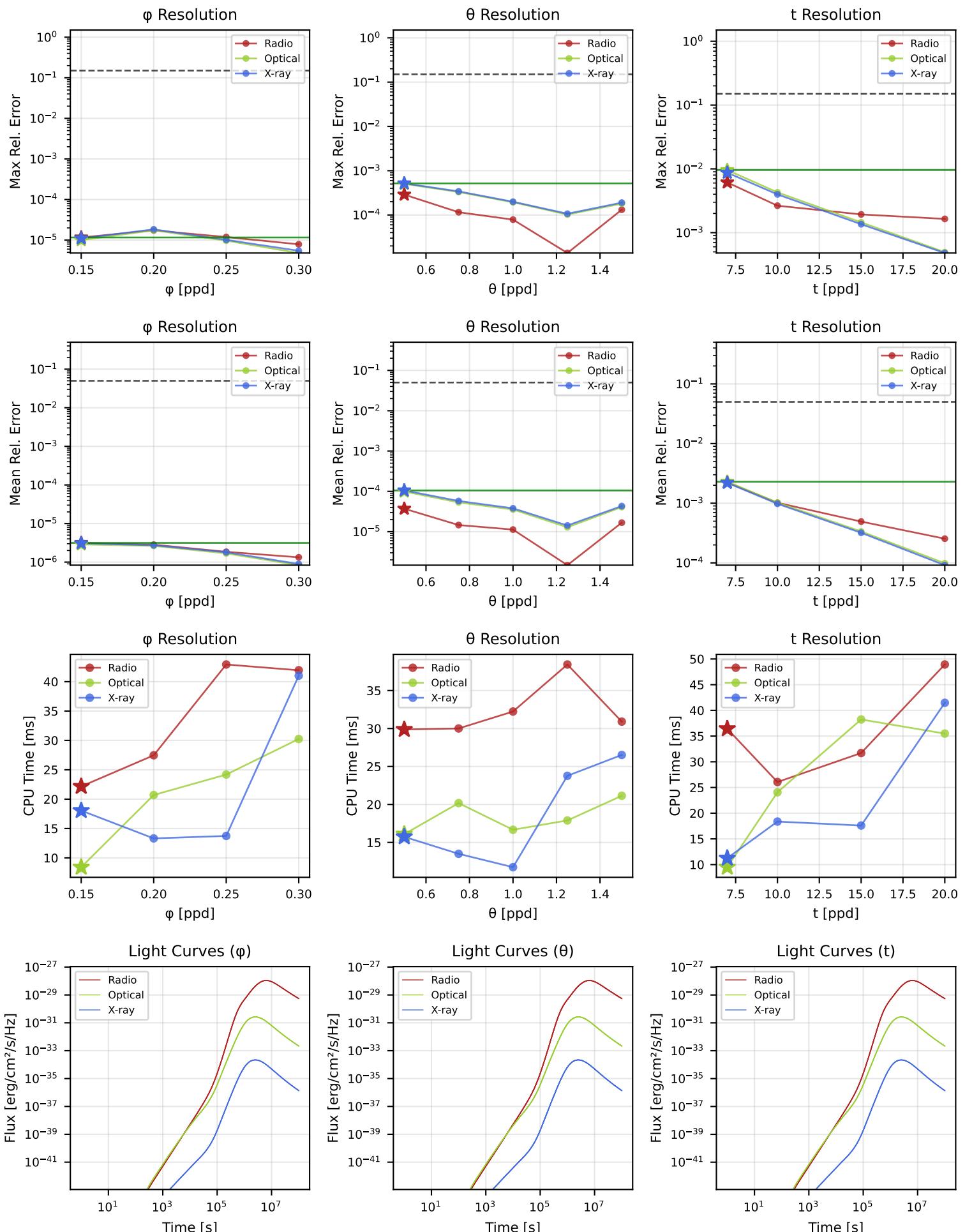
[PASS]

#17: tophat / ISM / flat_spectrum / $\theta_v/\theta_c=2.0$



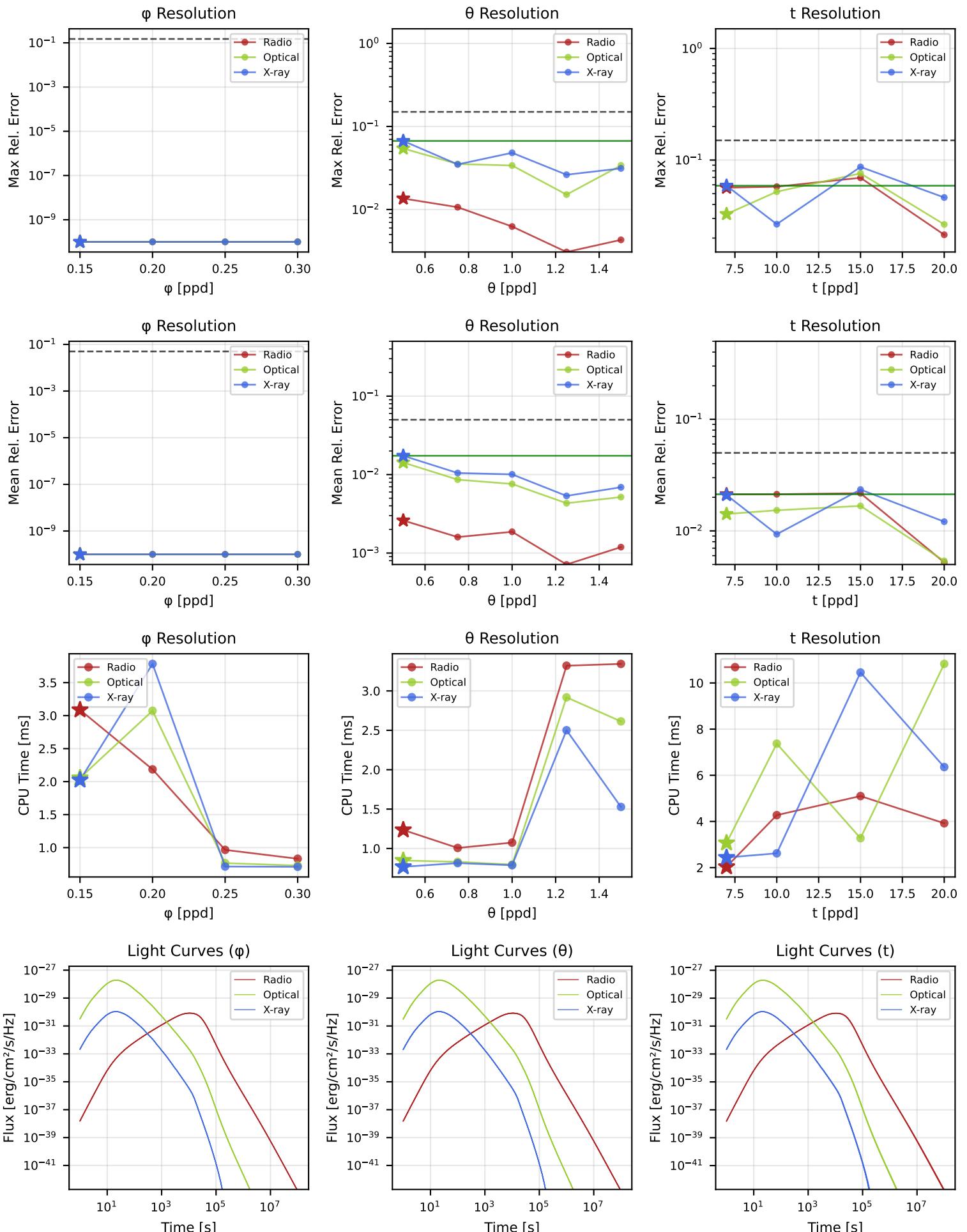
[PASS]

#18: tophat / ISM / flat_spectrum / $\theta_v/\theta_c=4.0$



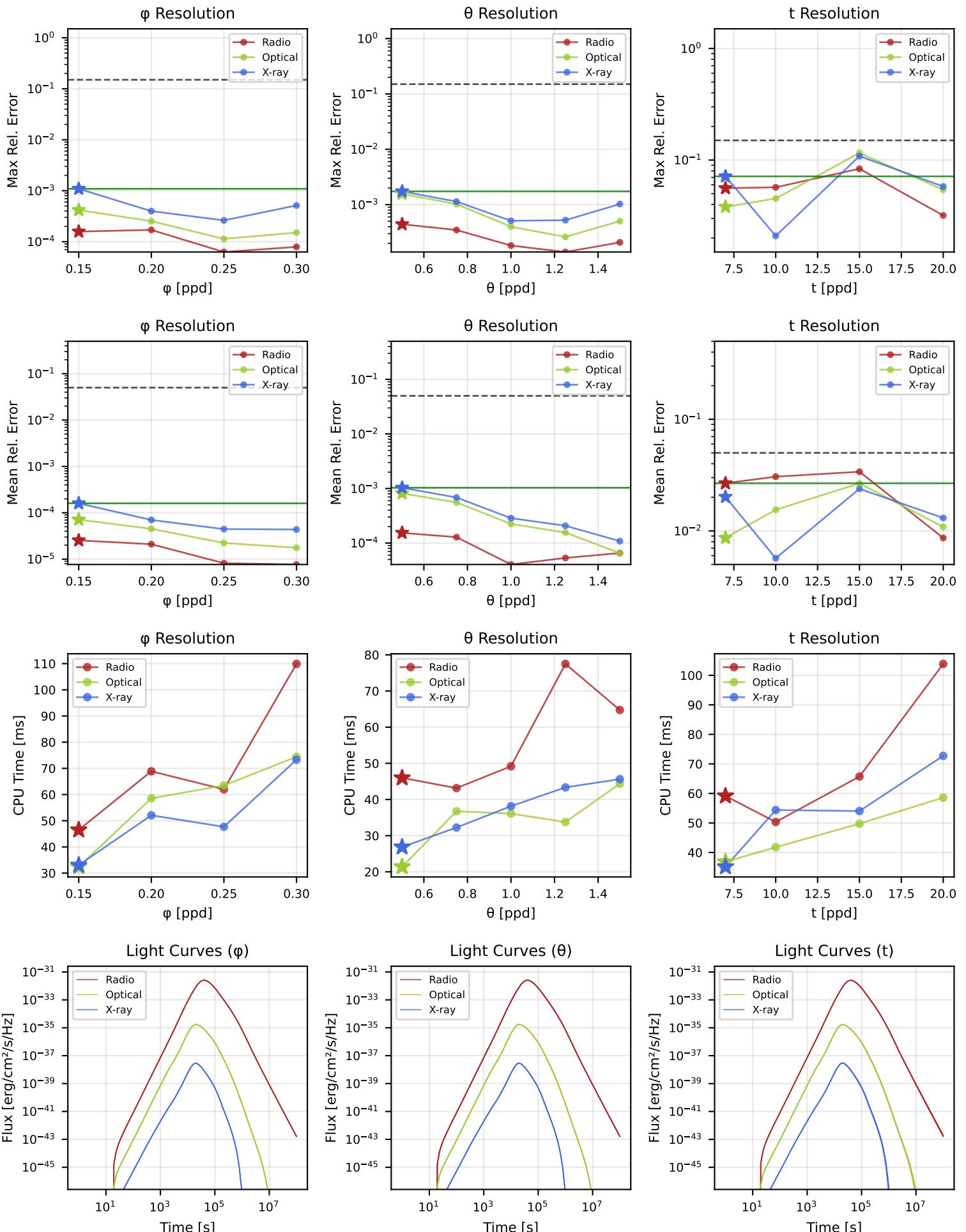
[PASS]

#19: tophat / ISM / rvs_sync_thin / $\theta_v/\theta_c=0.0$



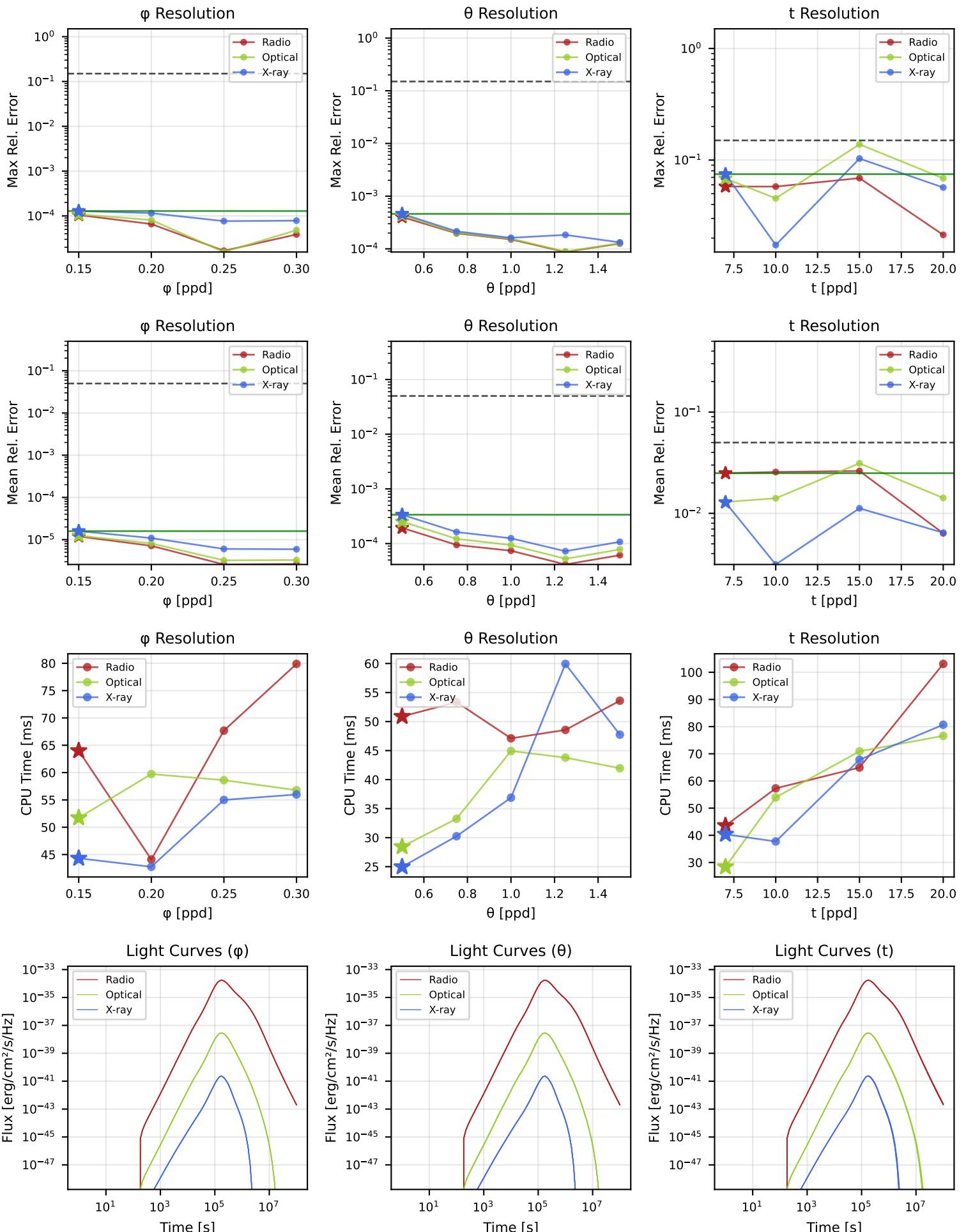
[PASS]

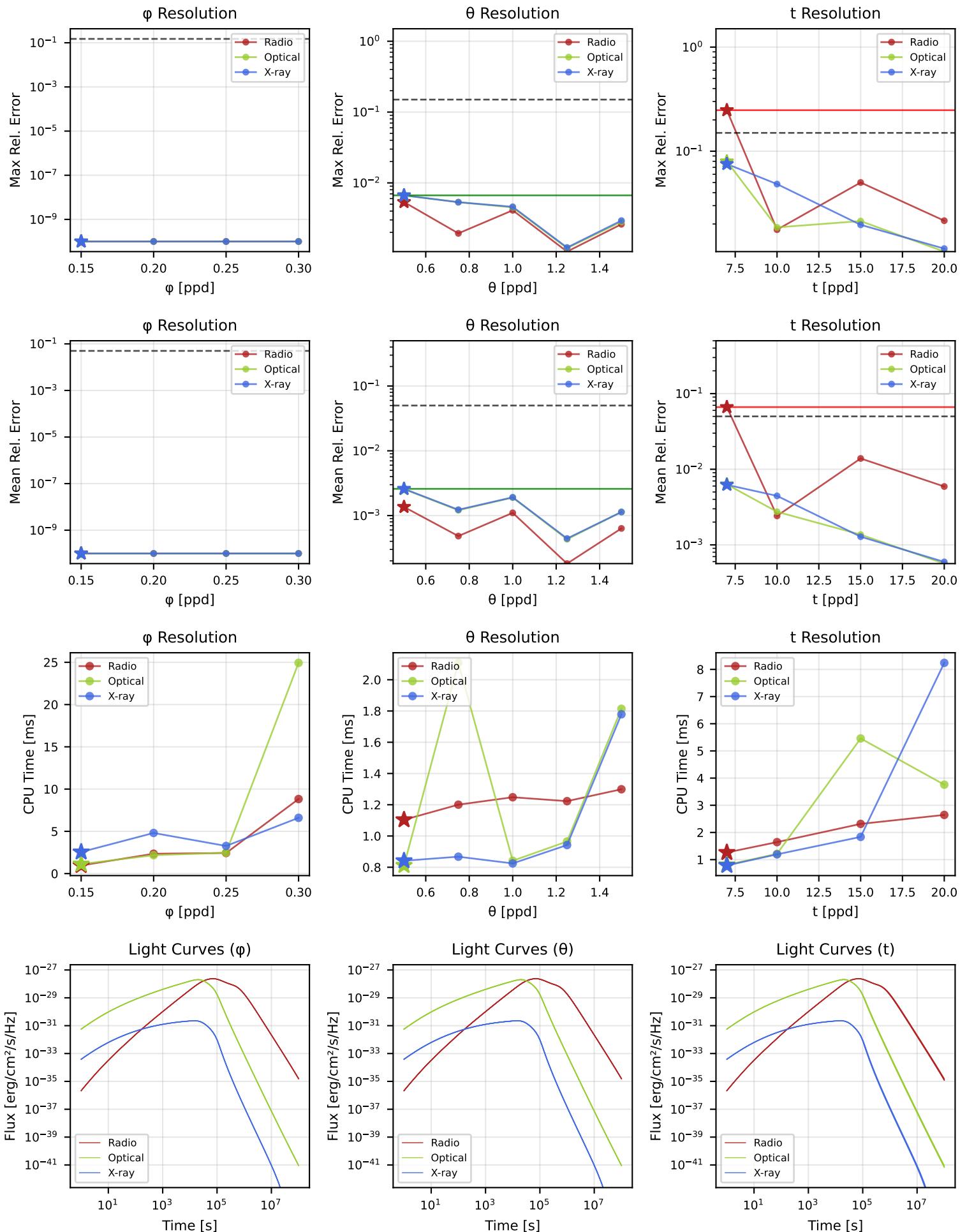
#20: tophat / ISM / rvs_sync_thin / $\theta_v/\theta_c=2.0$



[PASS]

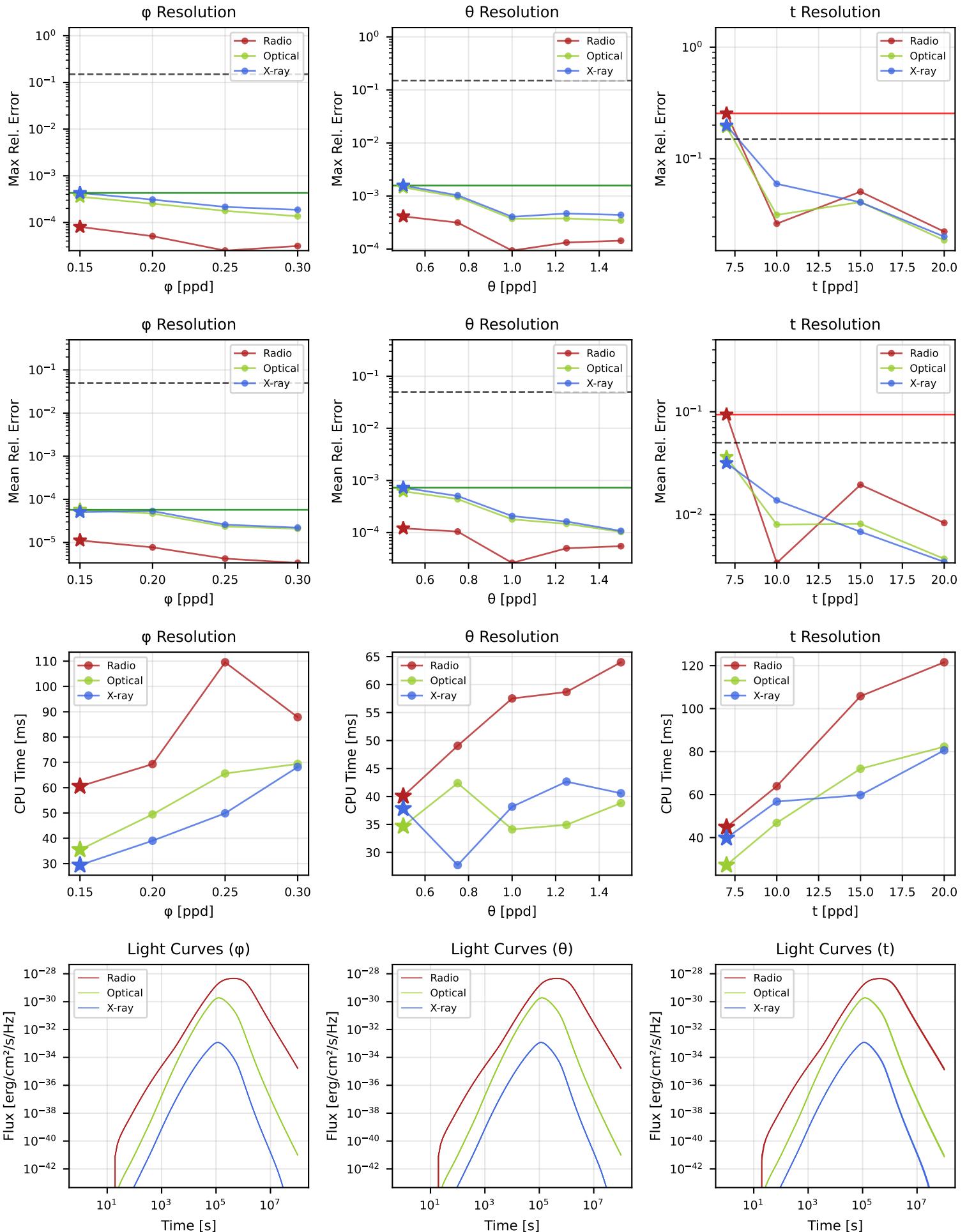
#21: tophat / ISM / rvs_sync_thin / $\theta_v/\theta_c=4.0$

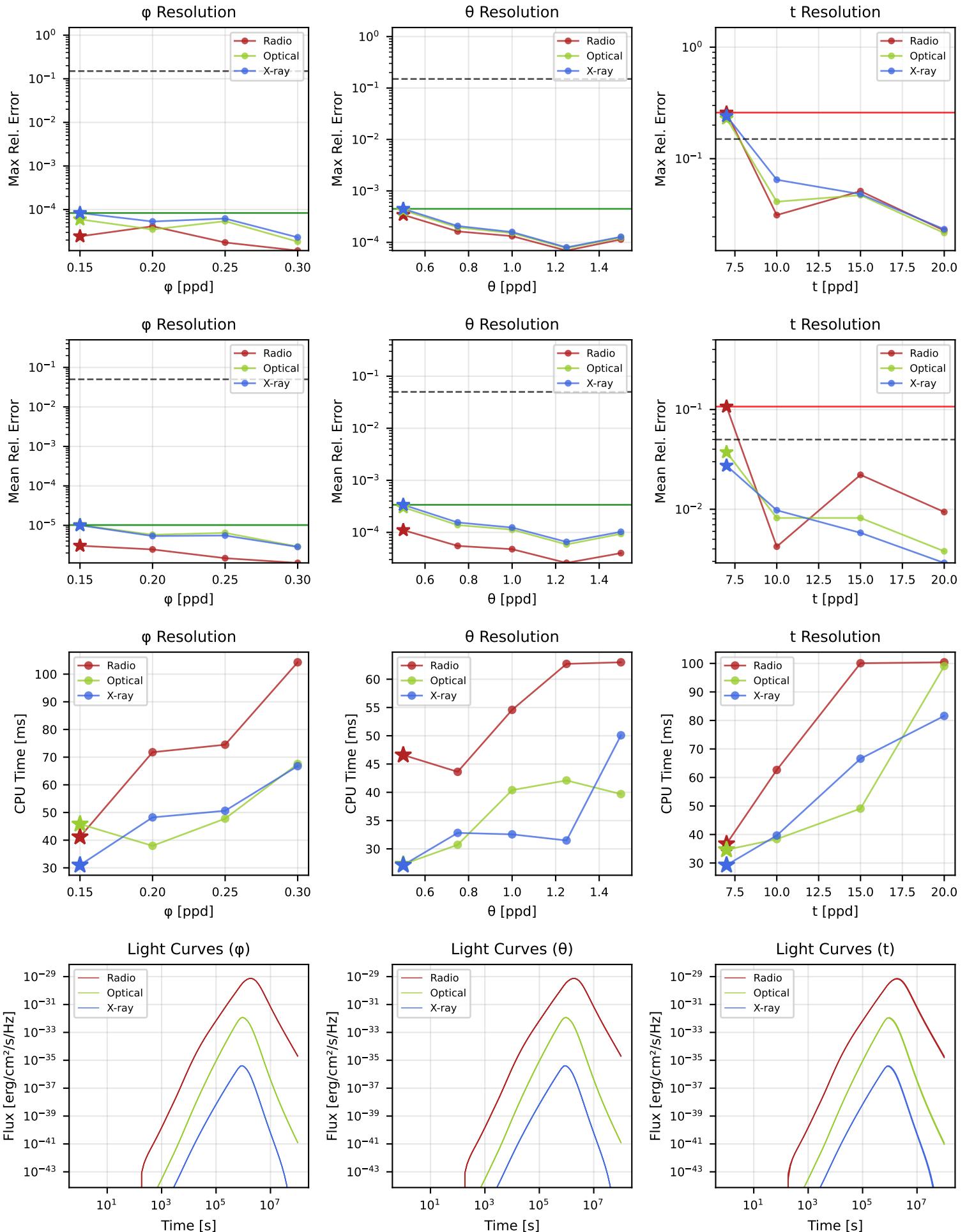


[FAIL]#22: tophat / ISM / rvs_sync_thick / $\theta_v/\theta_c=0.0$ 

[FAIL]

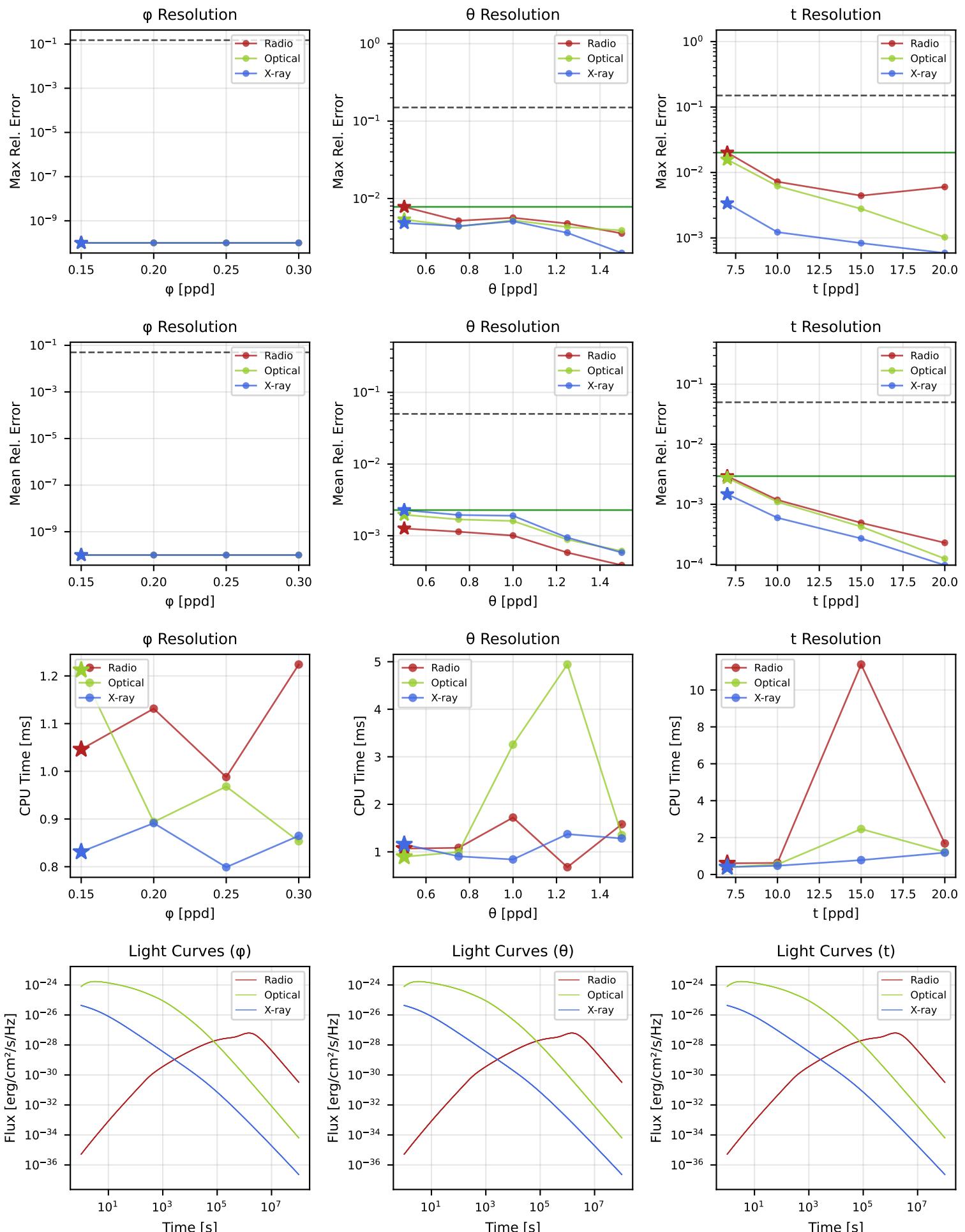
#23: tophat / ISM / rvs_sync_thick / $\theta_v/\theta_c=2.0$



[FAIL]#24: tophat / ISM / rvs_sync_thick / $\theta_v/\theta_c=4.0$ 

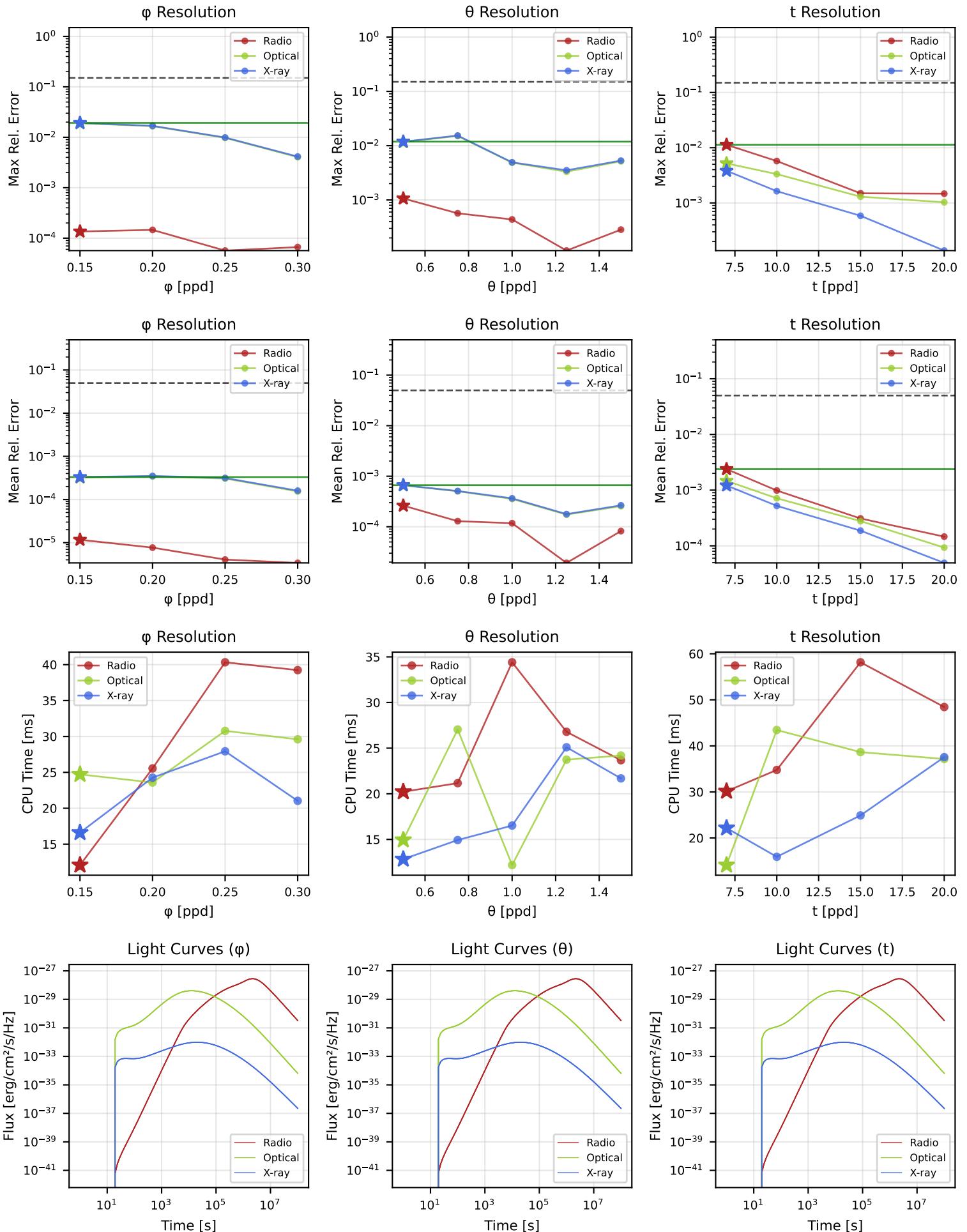
[PASS]

#25: tophat / wind / synchrotron / $\theta_v/\theta_c=0.0$



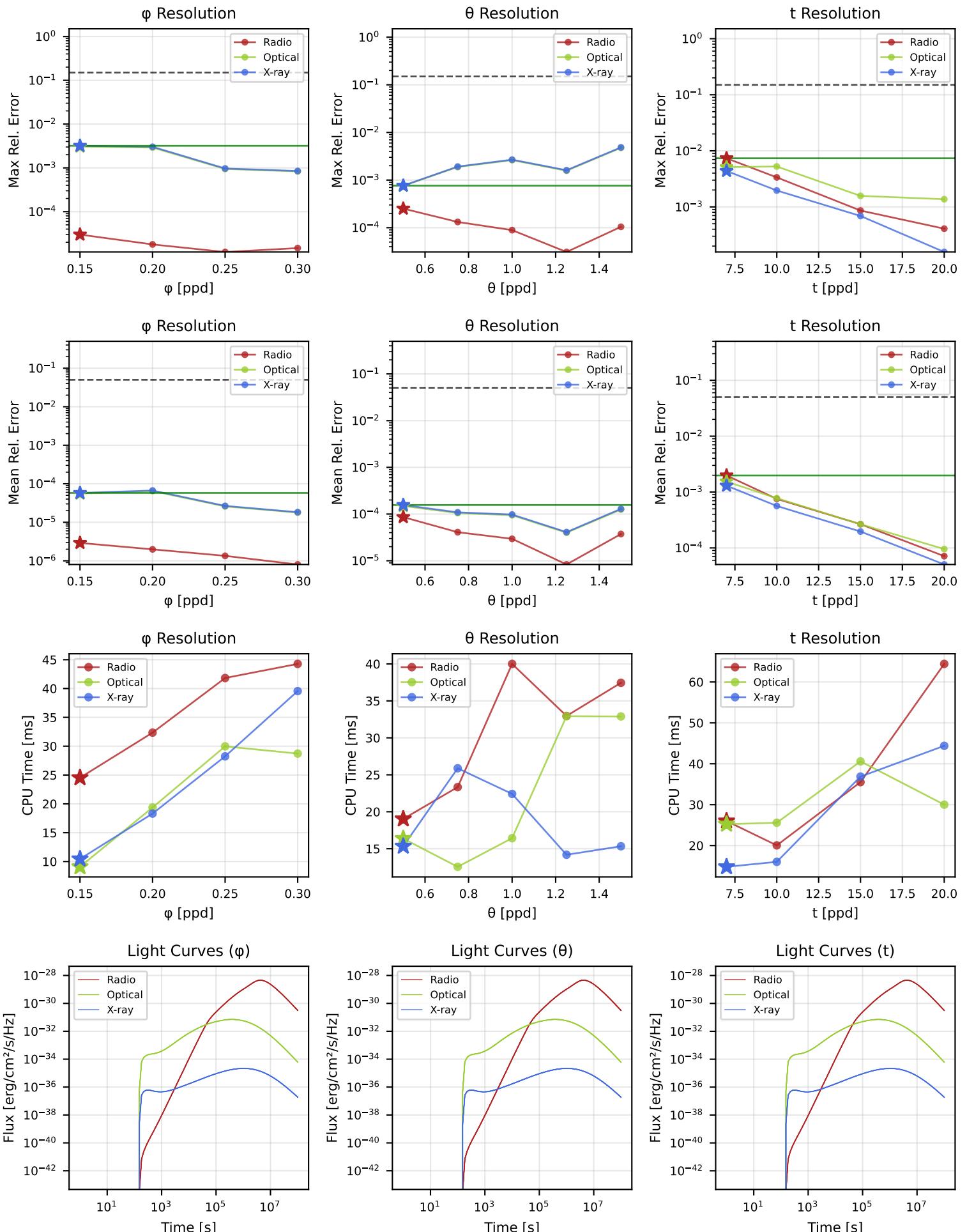
[PASS]

#26: tophat / wind / synchrotron / $\theta_v/\theta_c=2.0$



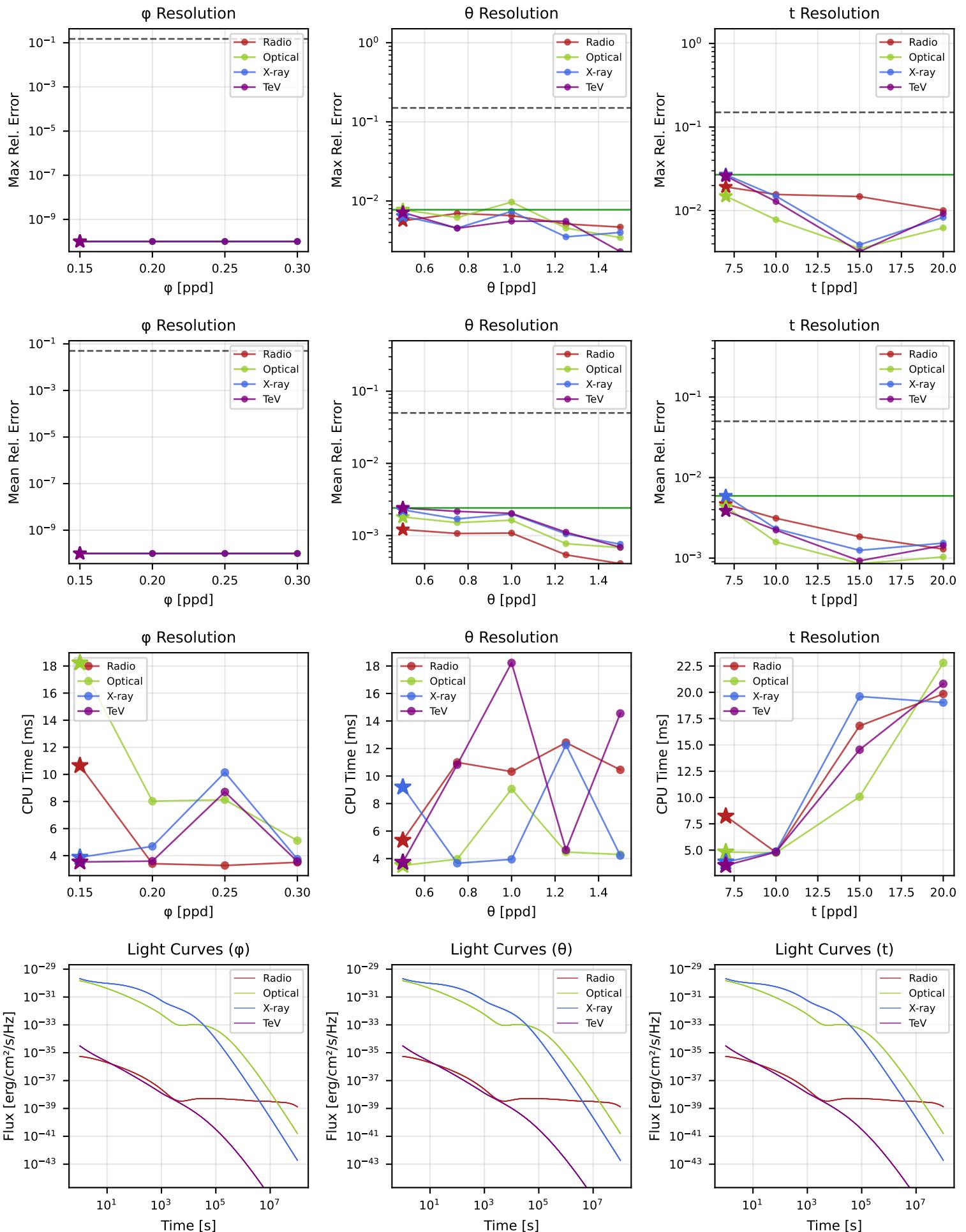
[PASS]

#27: tophat / wind / synchrotron / $\theta_v/\theta_c=4.0$



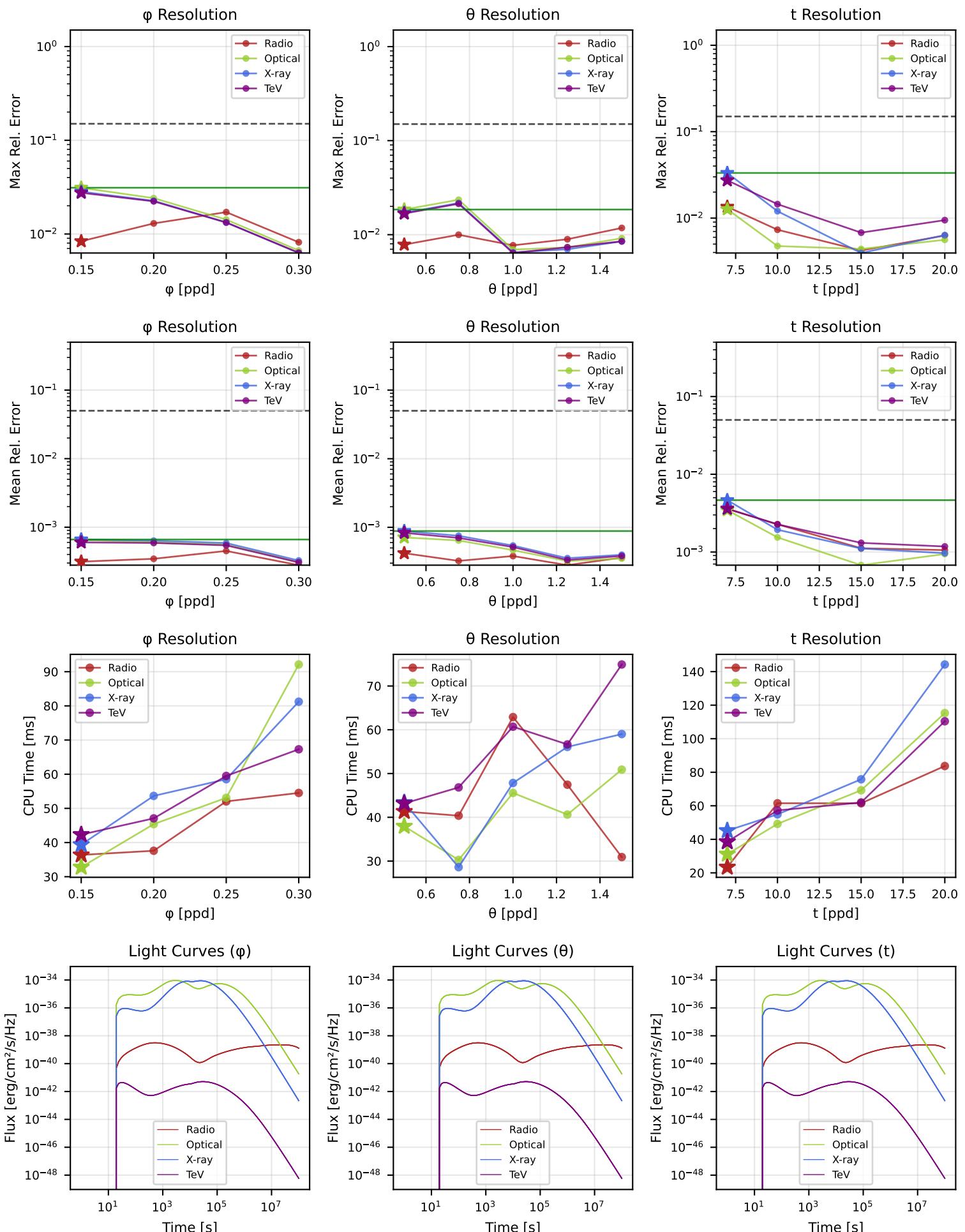
[PASS]

#28: tophat / wind / full_ssc / $\theta_v/\theta_c=0.0$



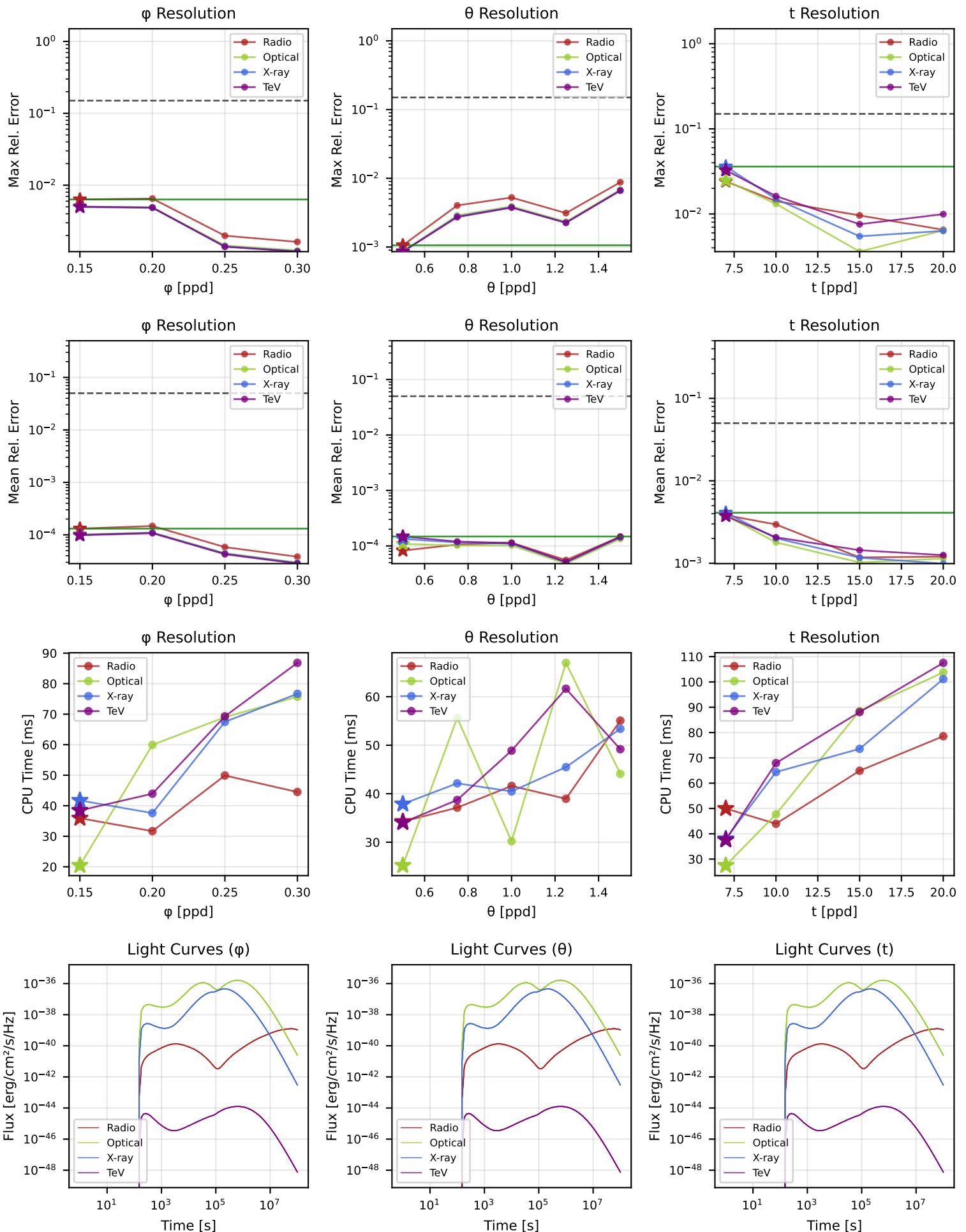
[PASS]

#29: tophat / wind / full_ssc / $\theta_v/\theta_c=2.0$



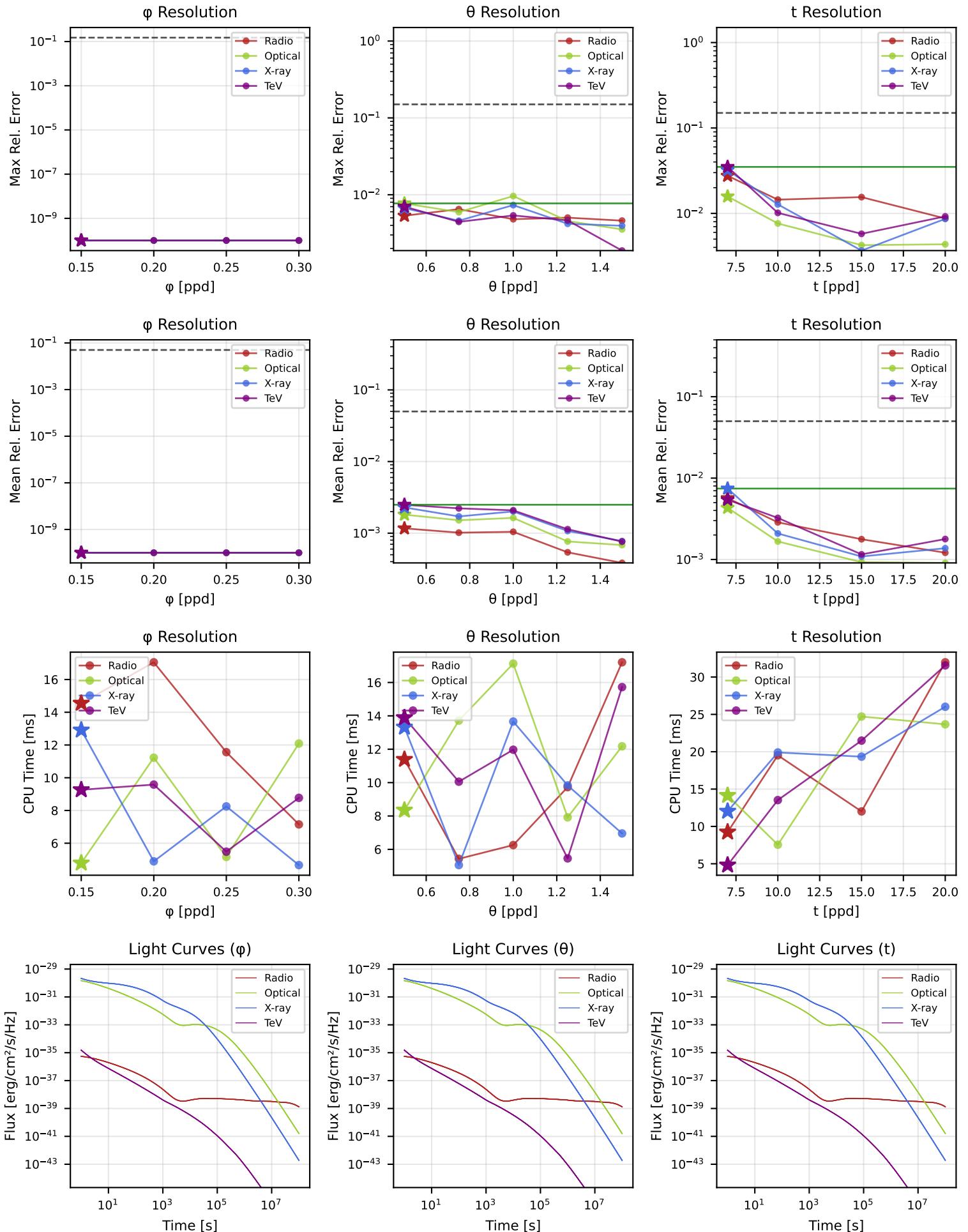
[PASS]

#30: tophat / wind / full_ssc / $\theta_v/\theta_c=4.0$



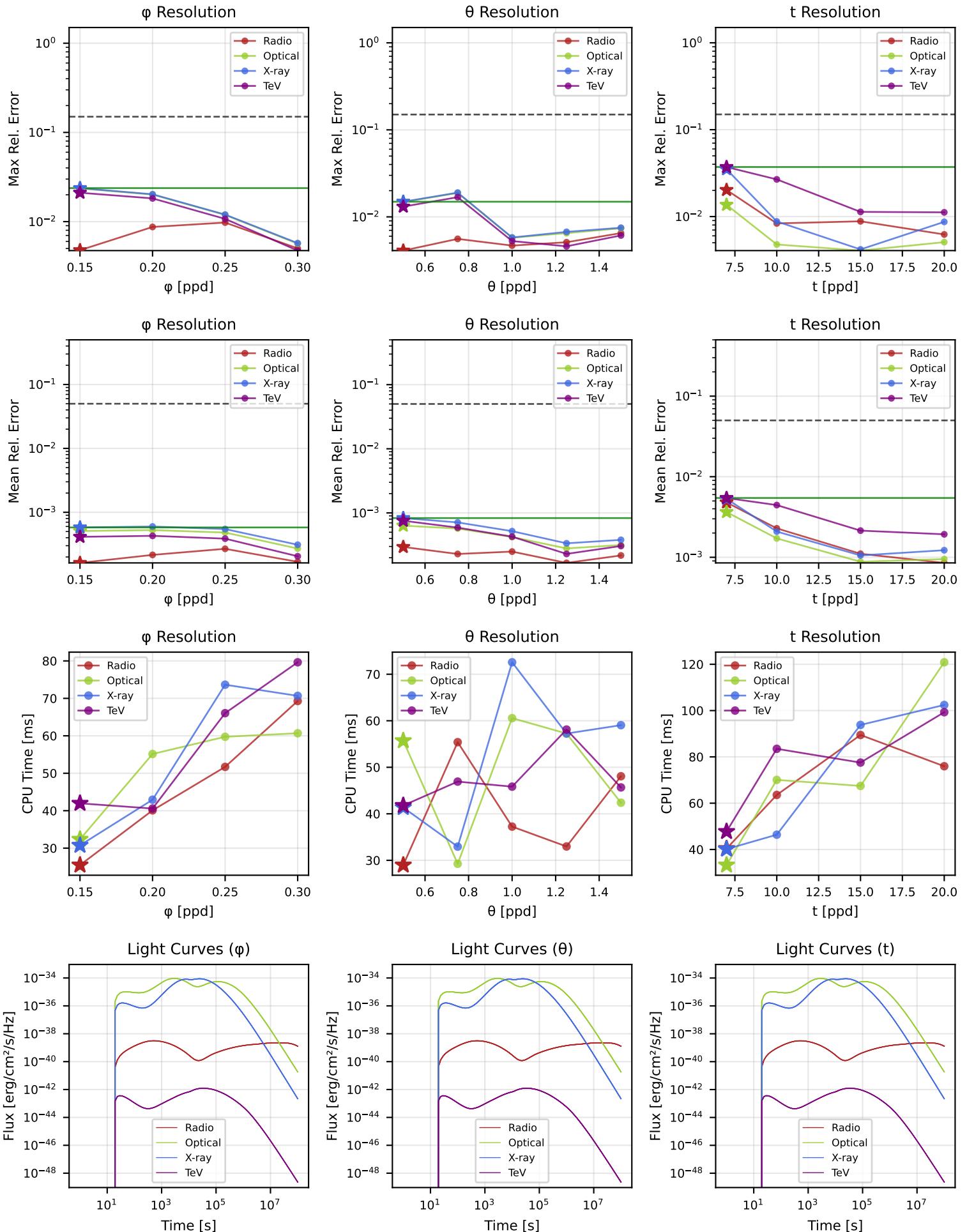
[PASS]

#31: tophat / wind / ssc_kn / $\theta_v/\theta_c=0.0$



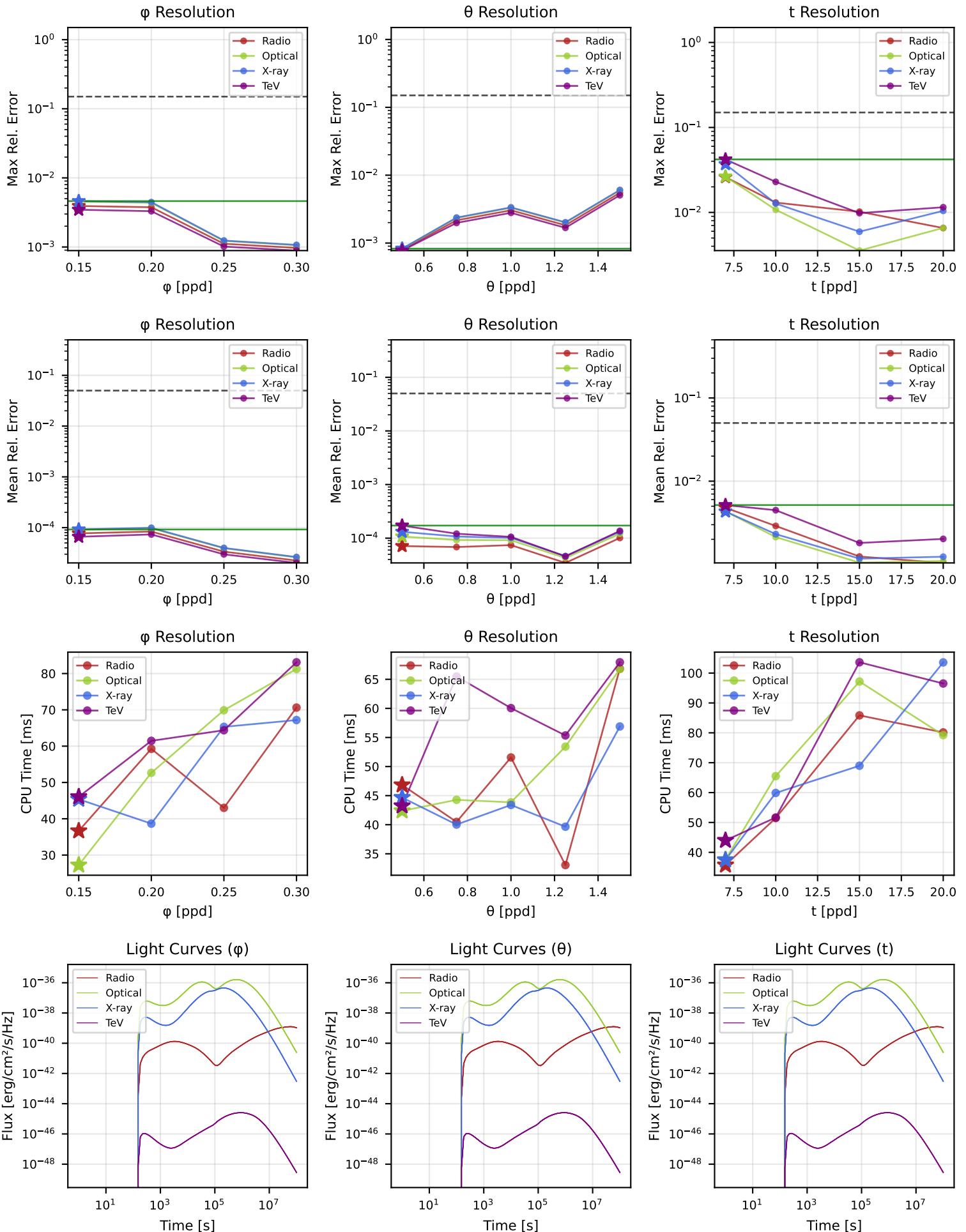
[PASS]

#32: tophat / wind / ssc_kn / $\theta_v/\theta_c=2.0$



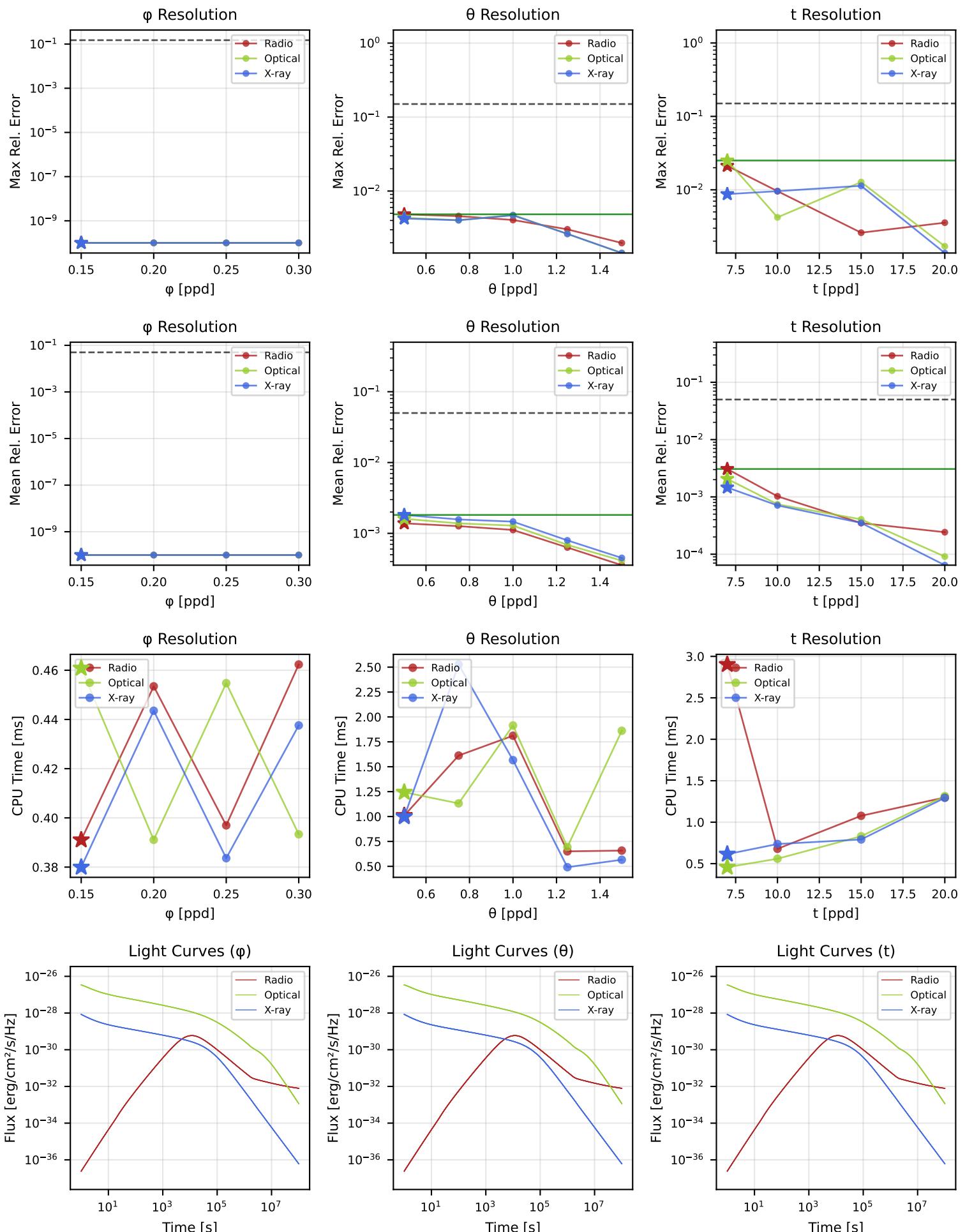
[PASS]

#33: tophat / wind / ssc_kn / $\theta_v/\theta_c=4.0$



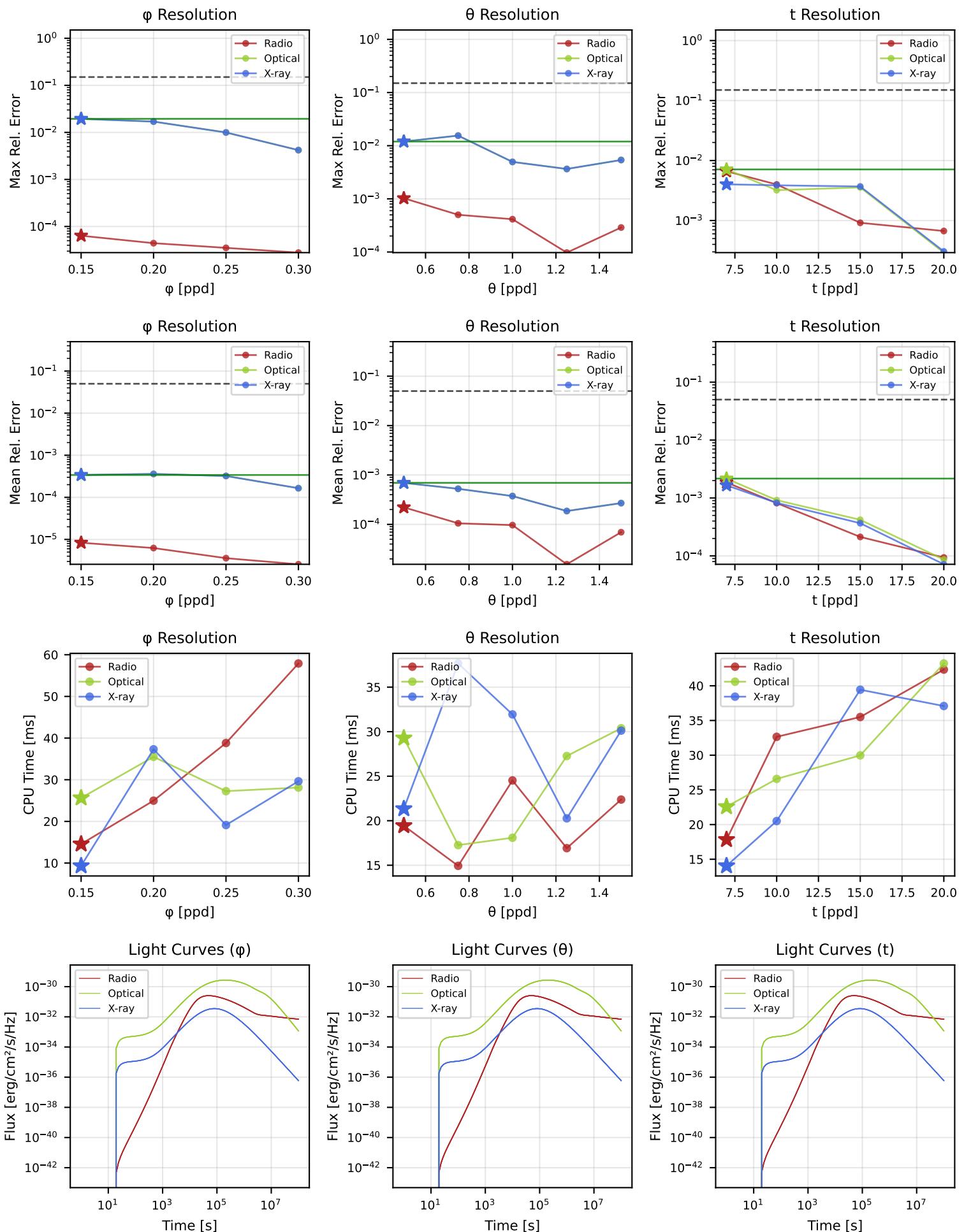
[PASS]

#34: tophat / wind / fast_cooling / $\theta_v/\theta_c=0.0$



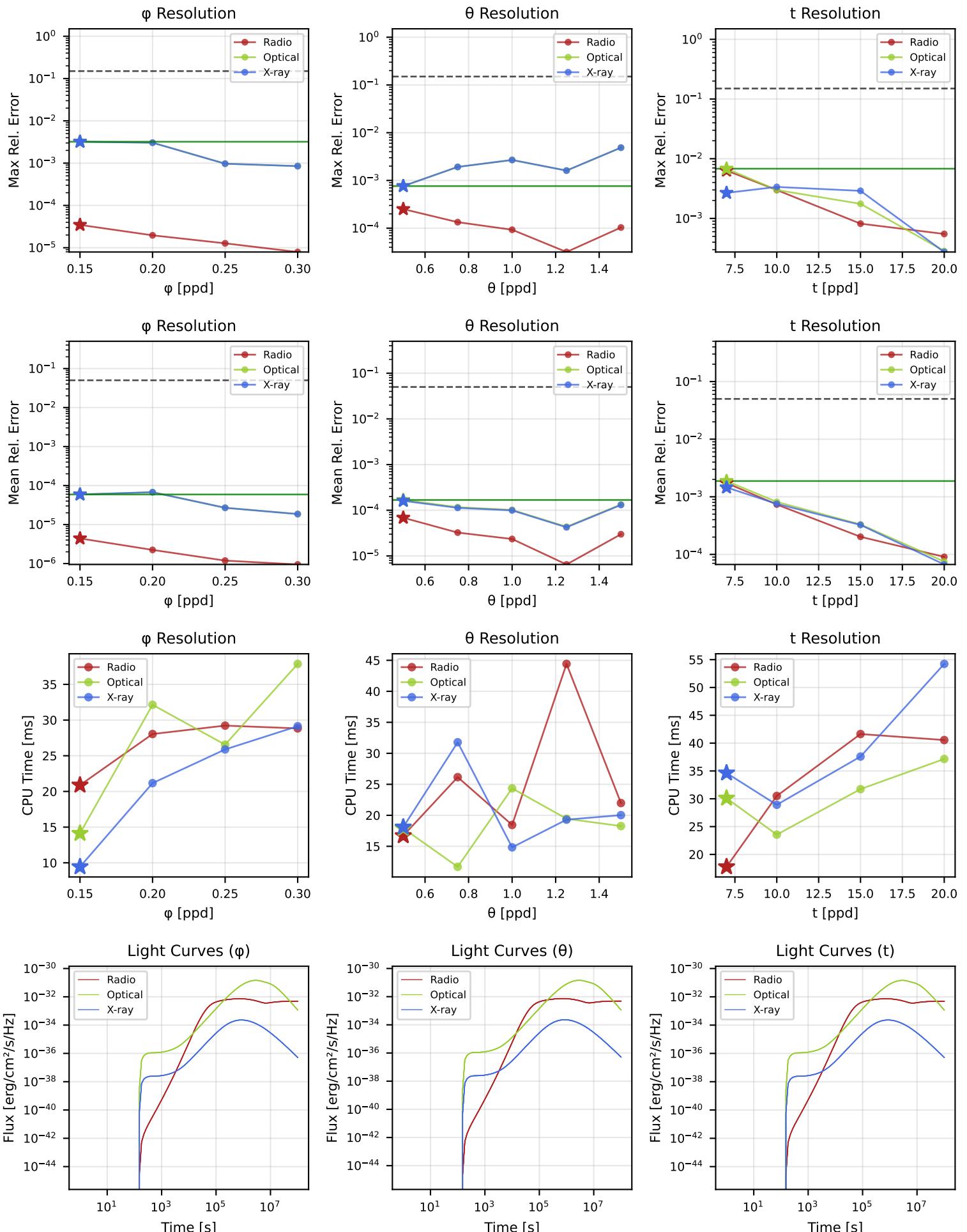
[PASS]

#35: tophat / wind / fast_cooling / $\theta_v/\theta_c=2.0$



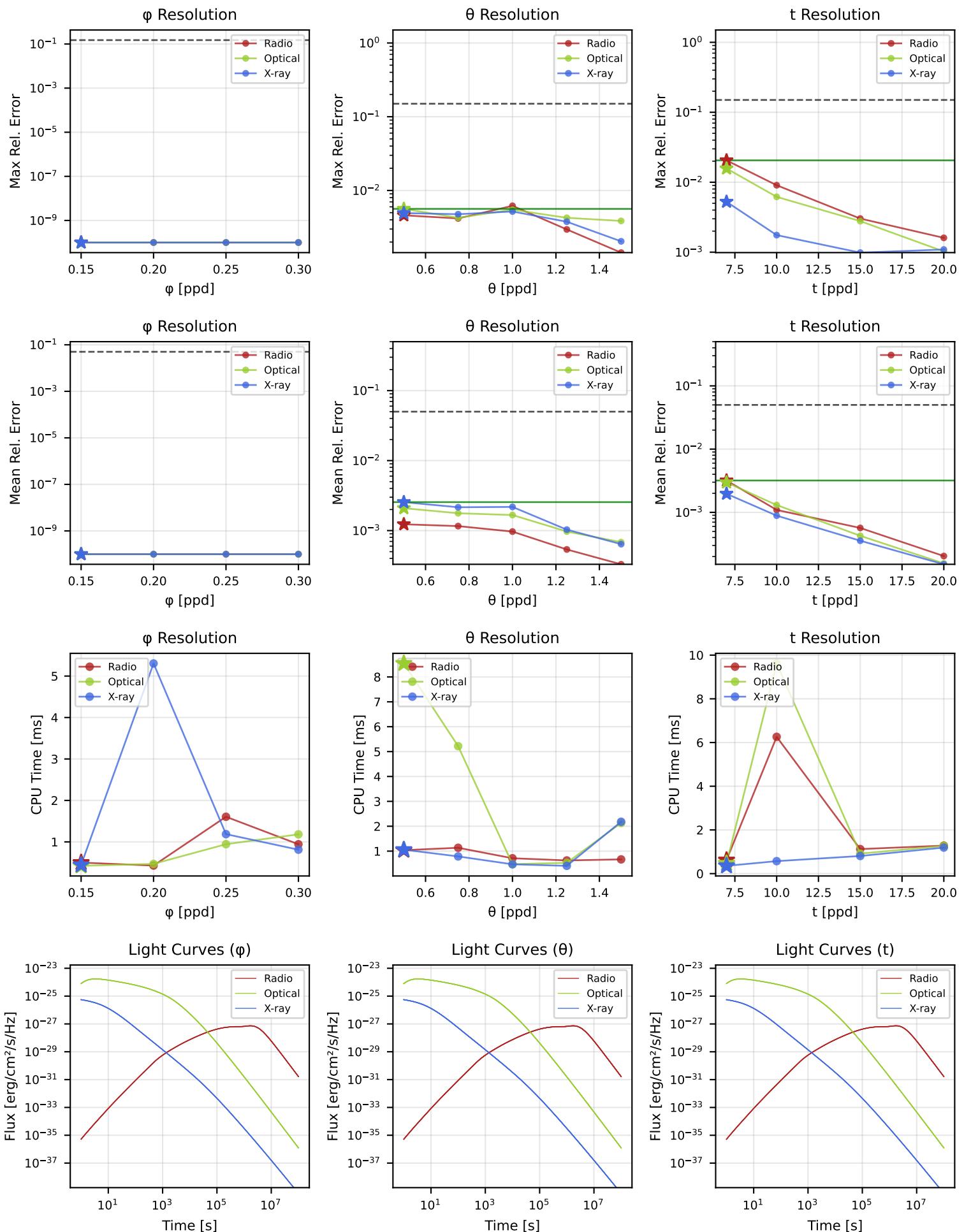
[PASS]

#36: tophat / wind / fast_cooling / $\theta_v/\theta_c=4.0$



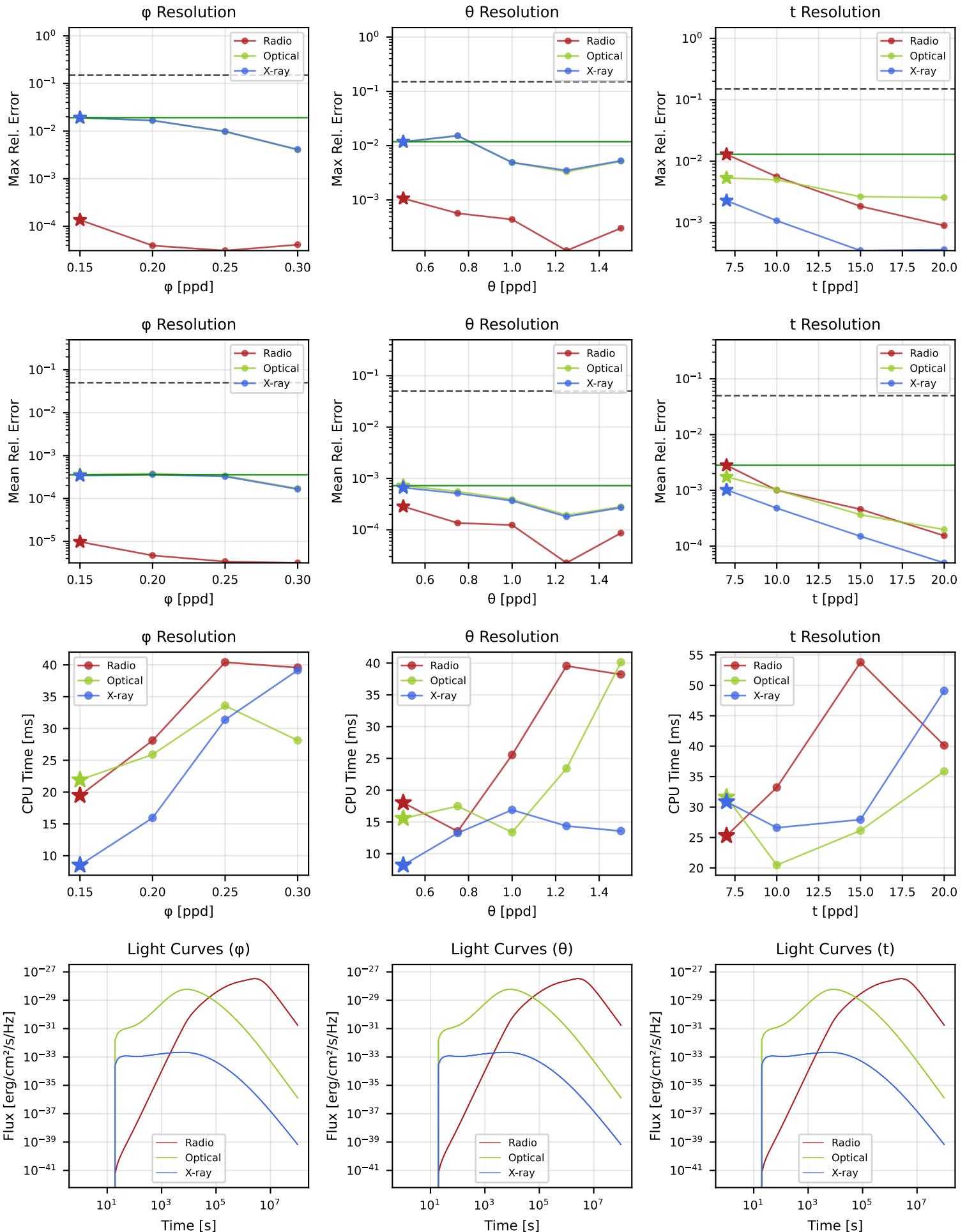
[PASS]

#37: tophat / wind / steep_spectrum / $\theta_v/\theta_c=0.0$



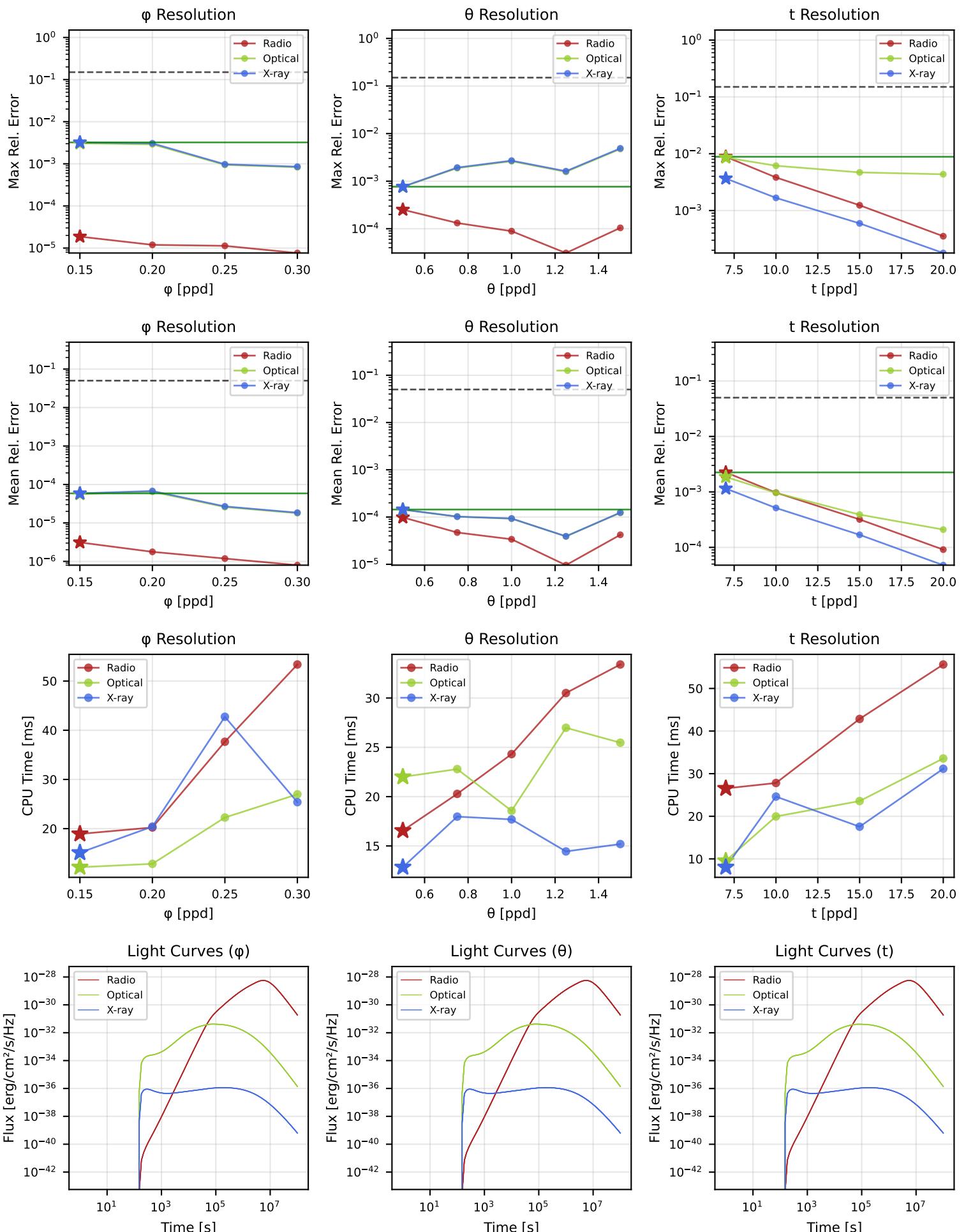
[PASS]

#38: tophat / wind / steep_spectrum / $\theta_v/\theta_c=2.0$



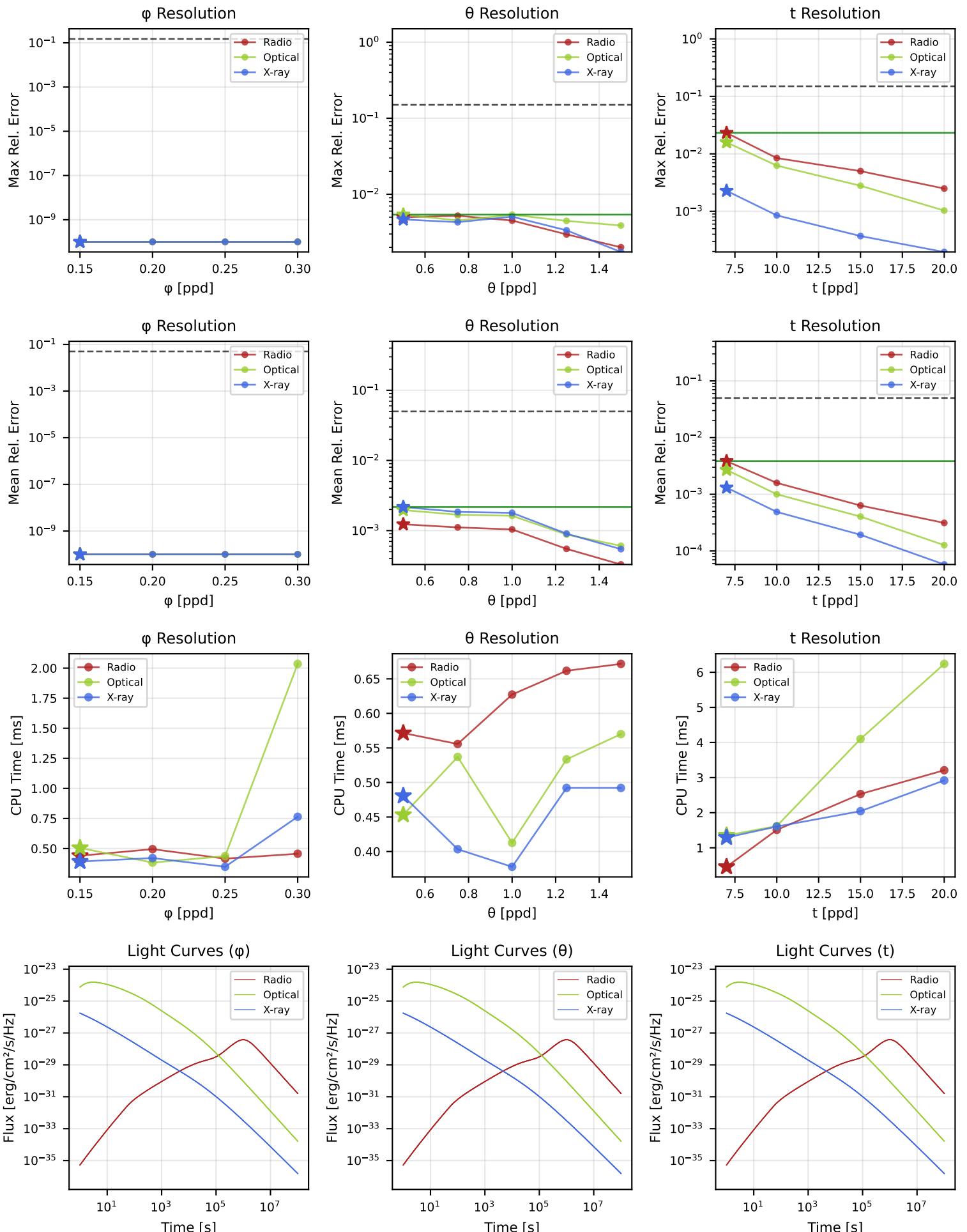
[PASS]

#39: tophat / wind / steep_spectrum / $\theta_v/\theta_c=4.0$



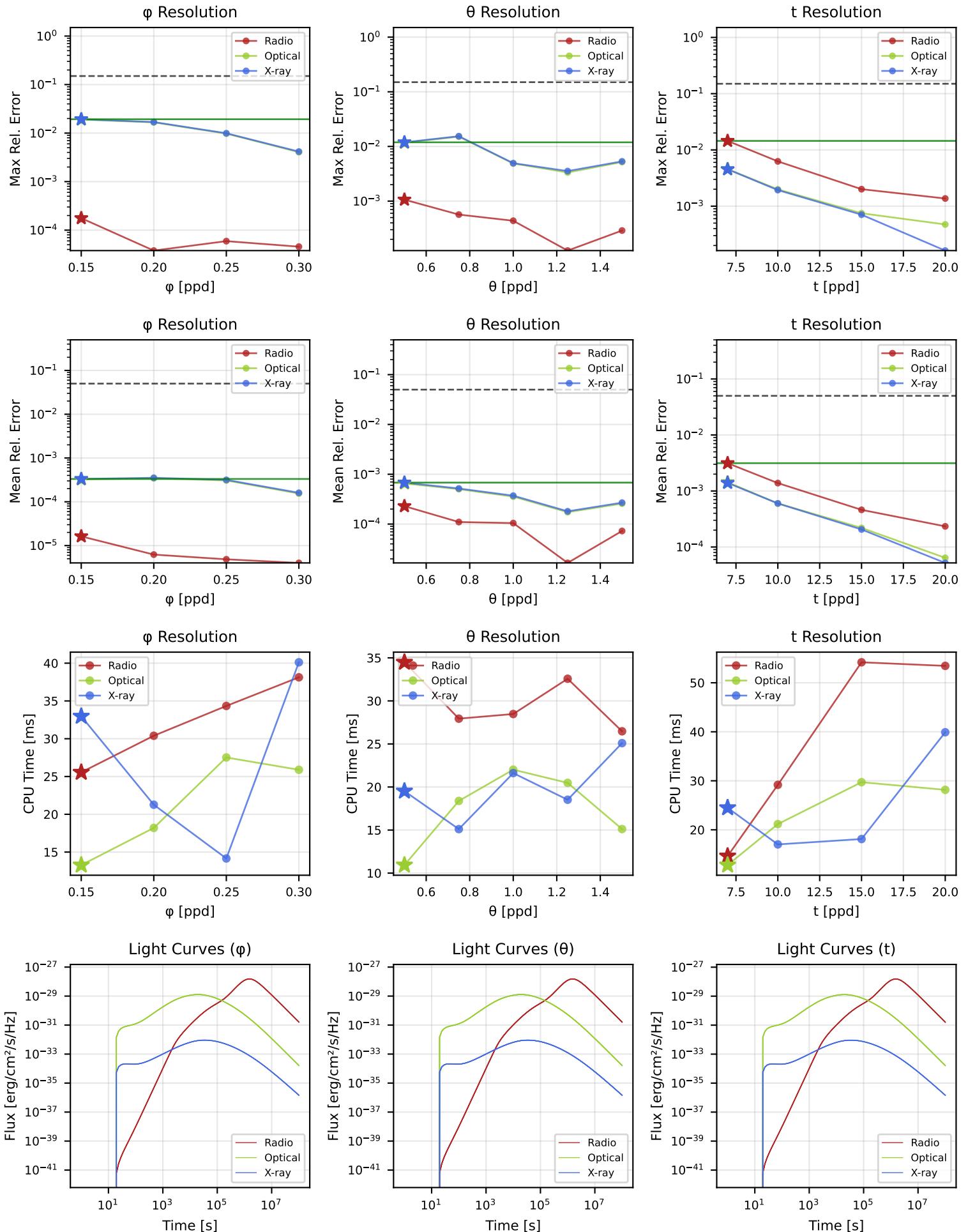
[PASS]

#40: tophat / wind / flat_spectrum / $\theta_v/\theta_c=0.0$



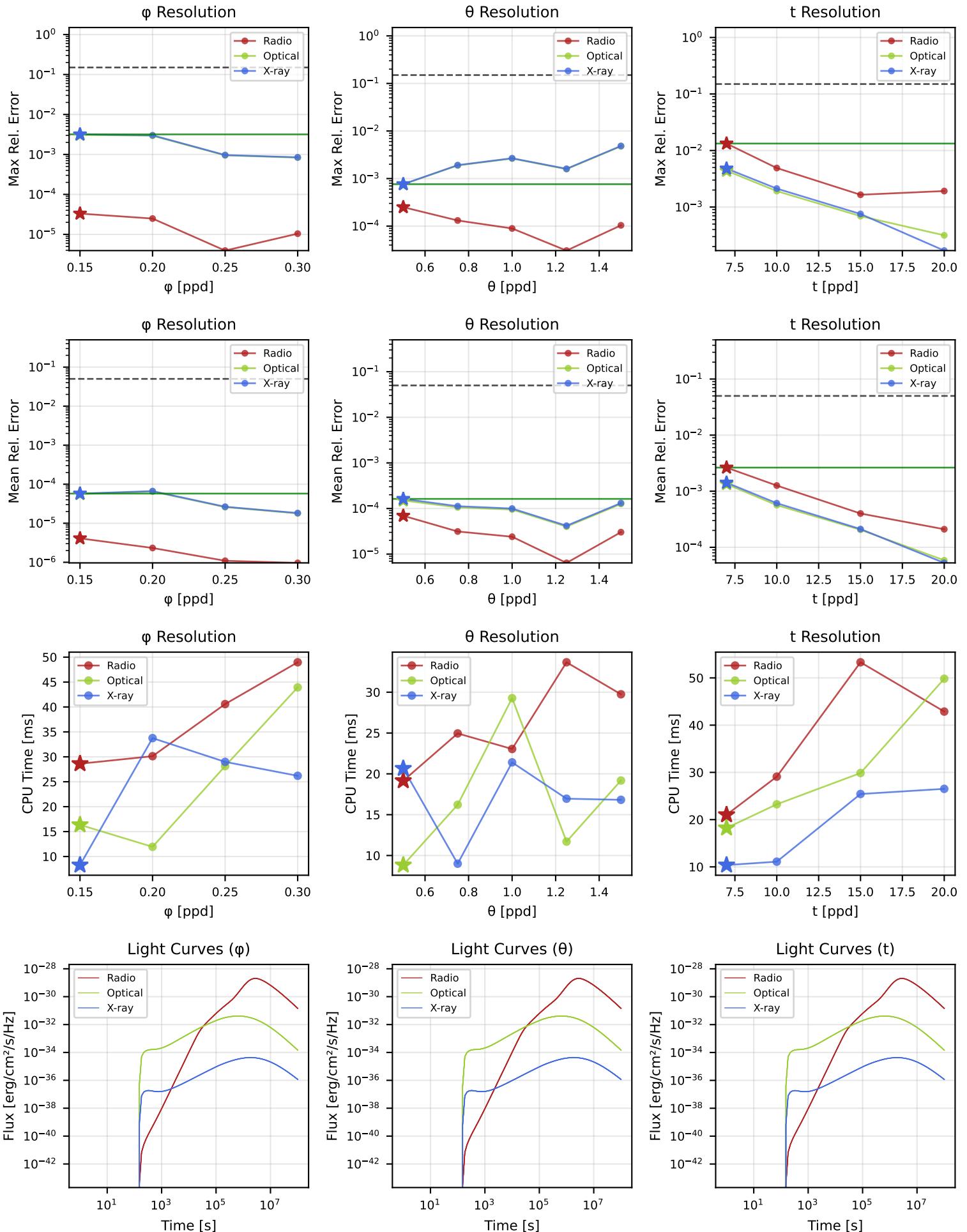
[PASS]

#41: tophat / wind / flat_spectrum / $\theta_v/\theta_c=2.0$



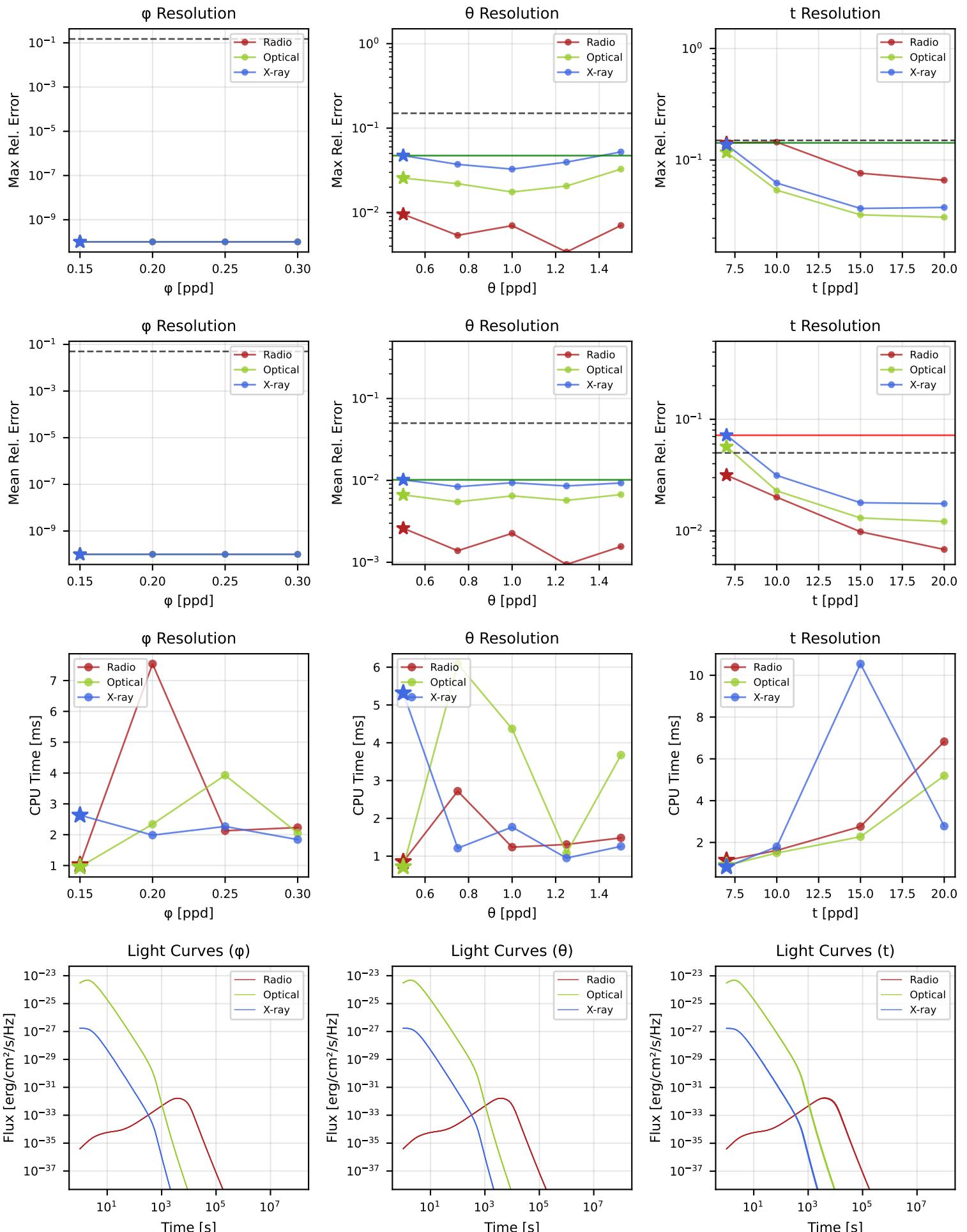
[PASS]

#42: tophat / wind / flat_spectrum / $\theta_v/\theta_c=4.0$



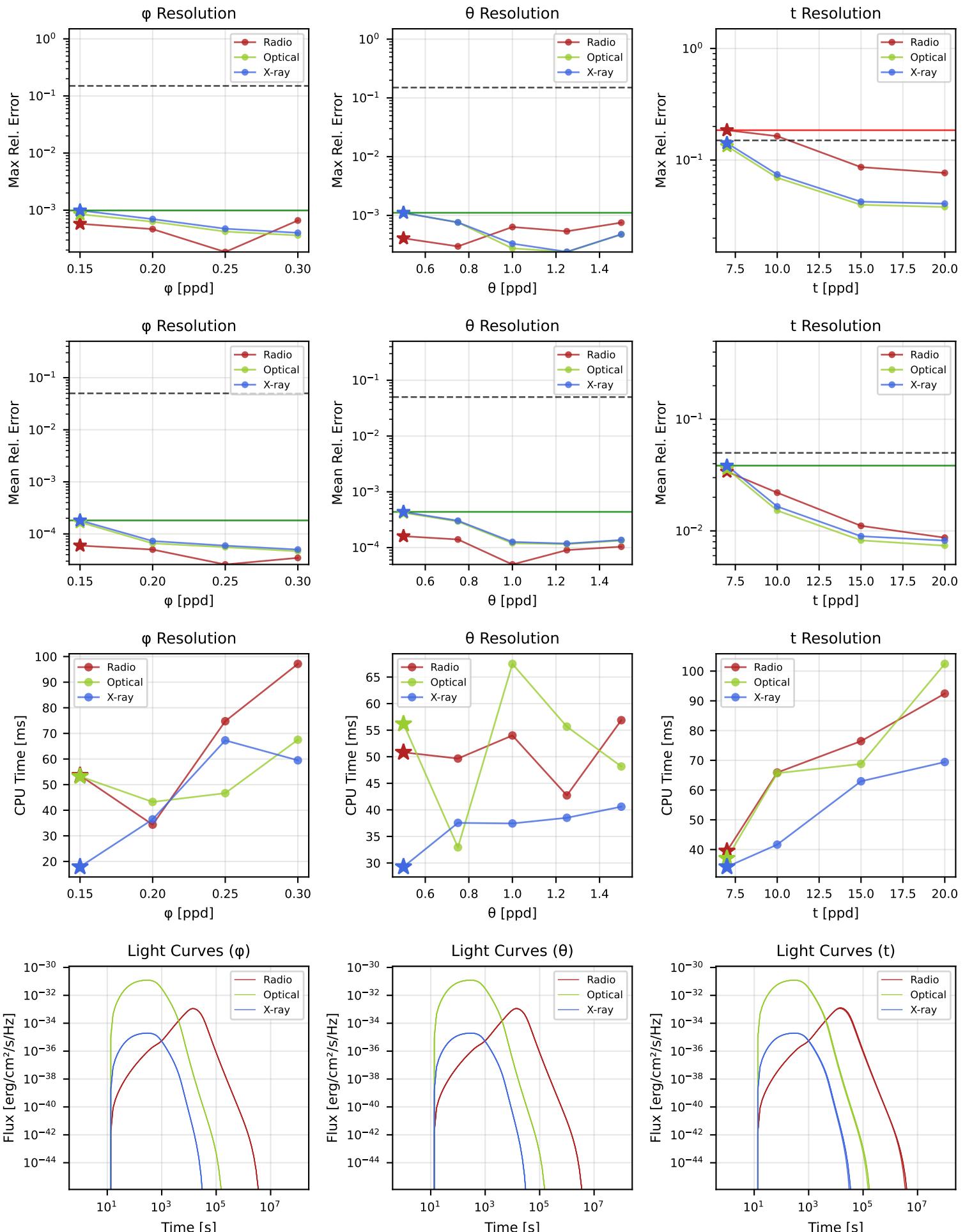
[FAIL]

#43: tophat / wind / rvs_sync_thin / $\theta_v/\theta_c=0.0$



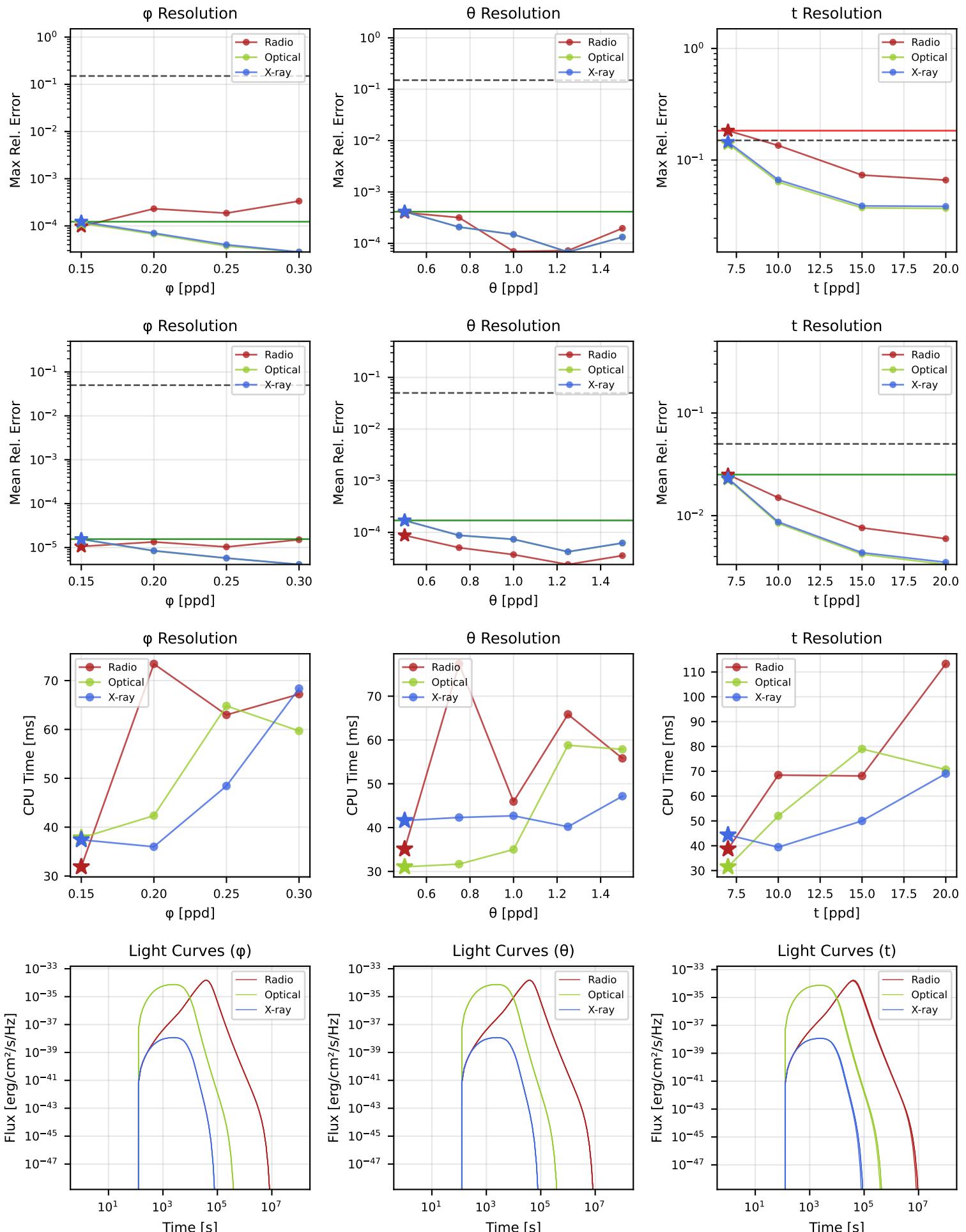
[ACCEPTABLE]

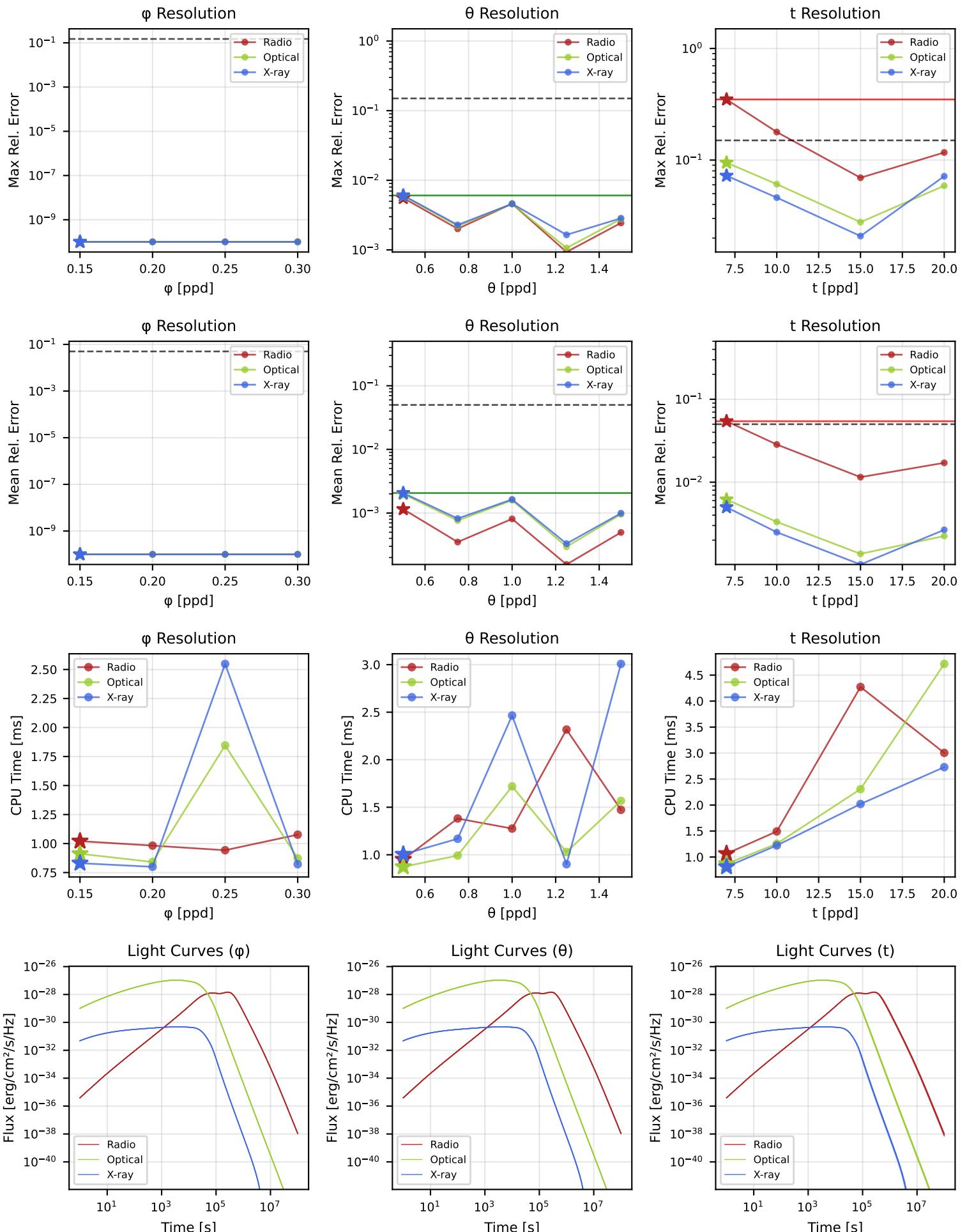
#44: tophat / wind / rvs_sync_thin / $\theta_v/\theta_c=2.0$



[ACCEPTABLE]

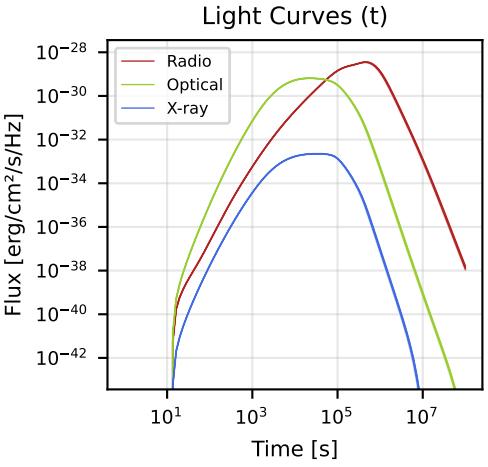
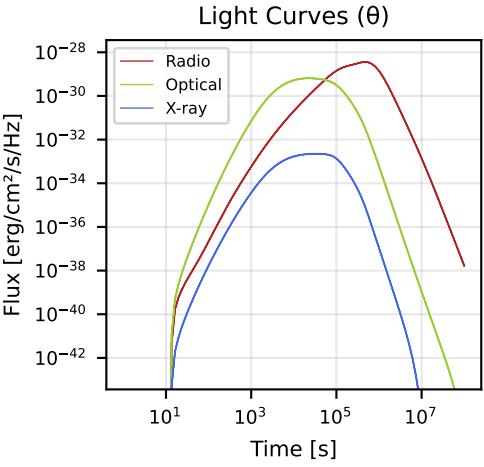
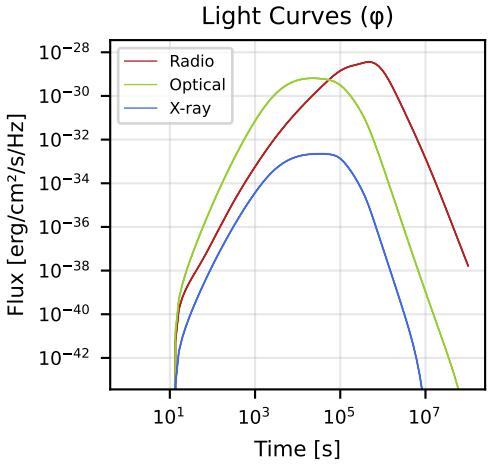
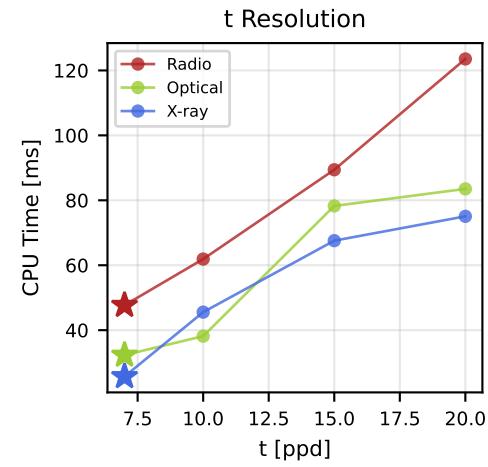
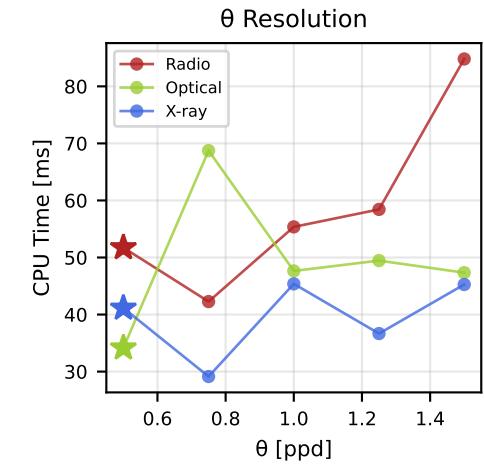
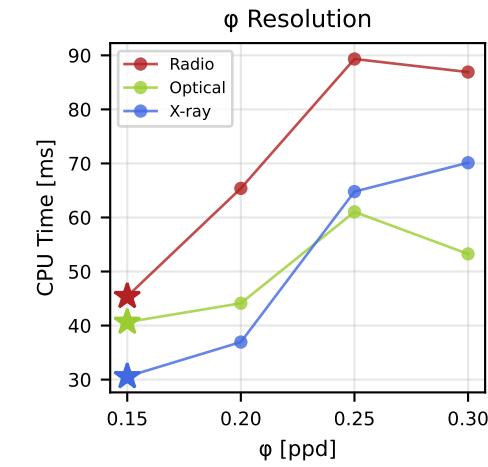
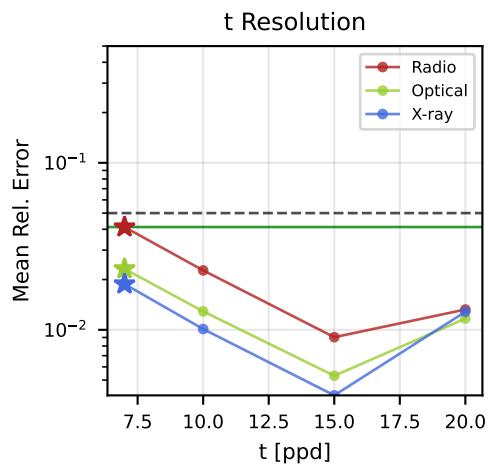
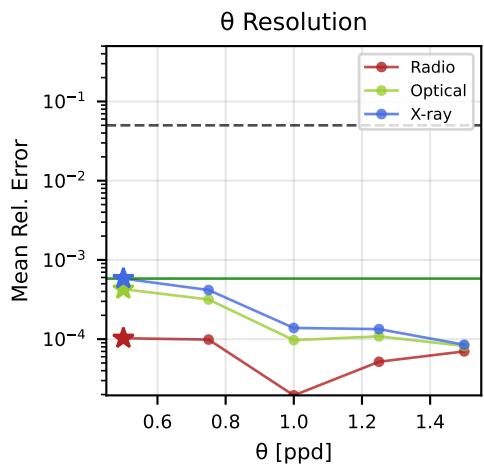
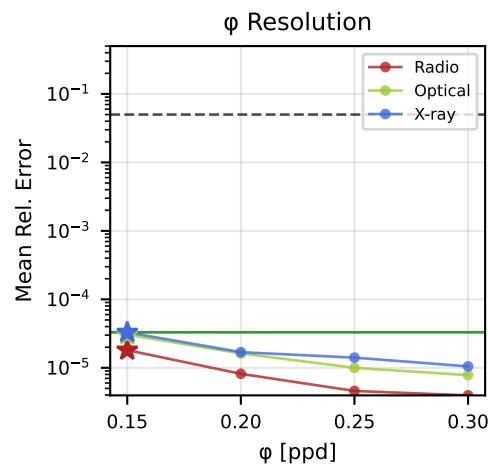
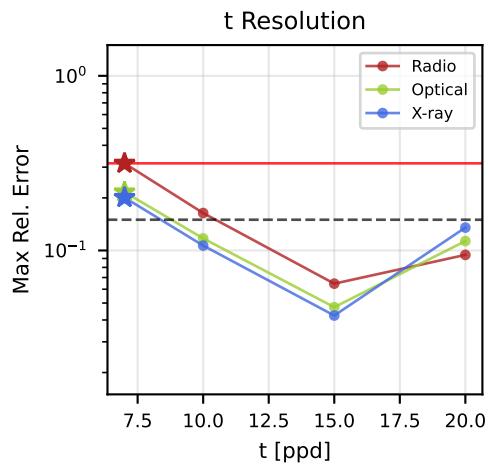
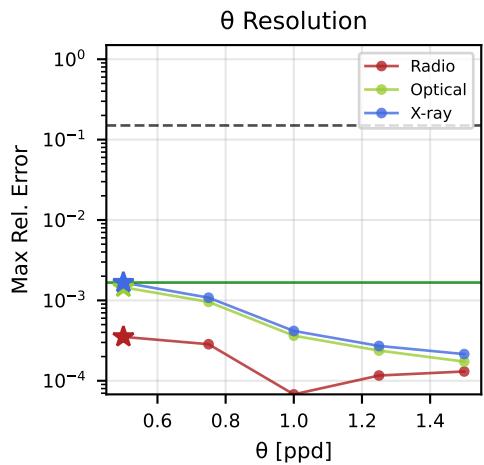
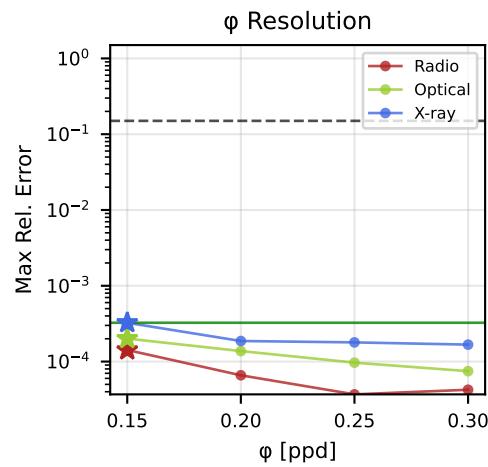
#45: tophat / wind / rvs_sync_thin / $\theta_v/\theta_c=4.0$



[FAIL]#46: tophat / wind / rvs_sync_thick / $\theta_v/\theta_c=0.0$ 

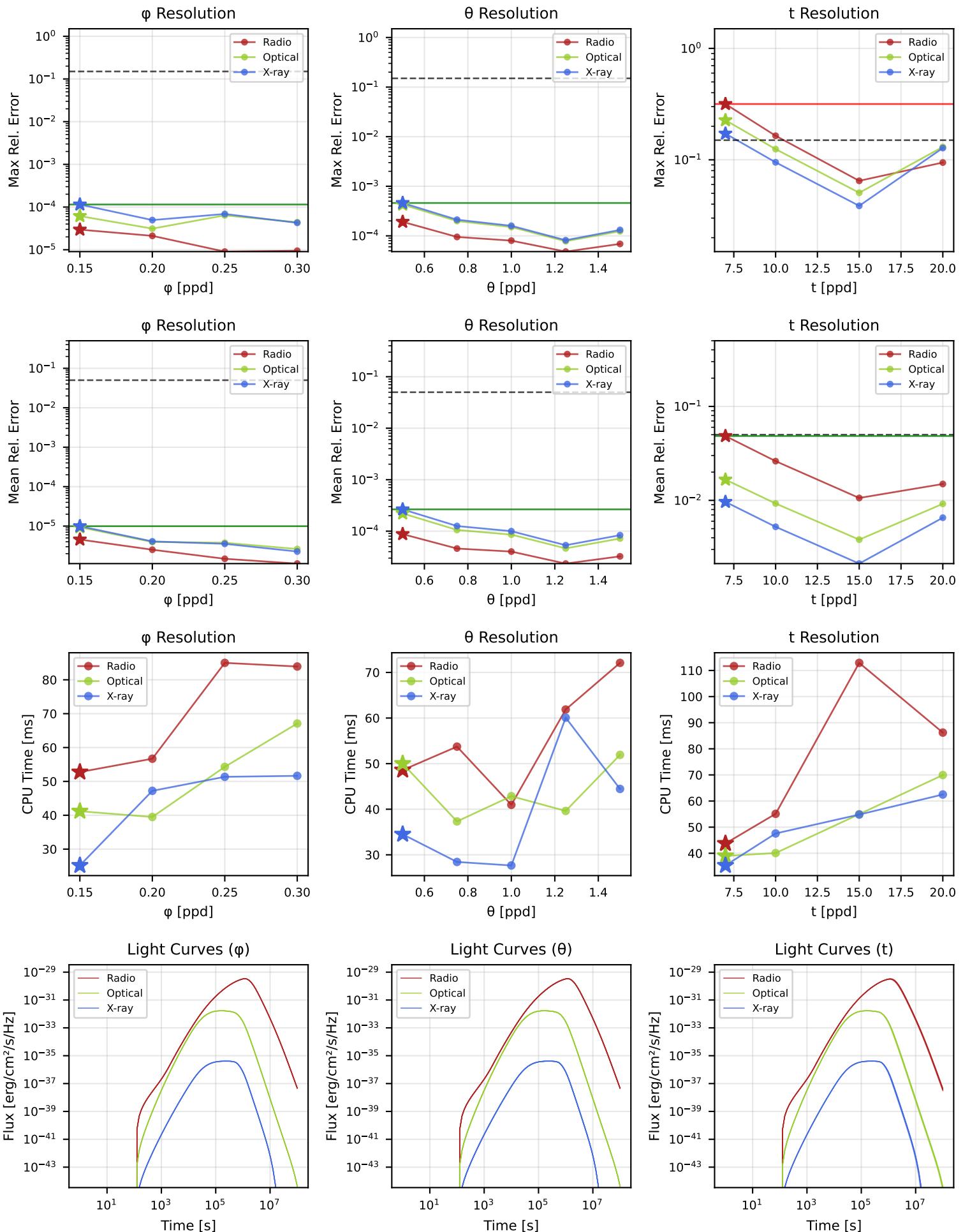
[ACCEPTABLE]

#47: tophat / wind / rvs_sync_thick / $\theta_v/\theta_c=2.0$



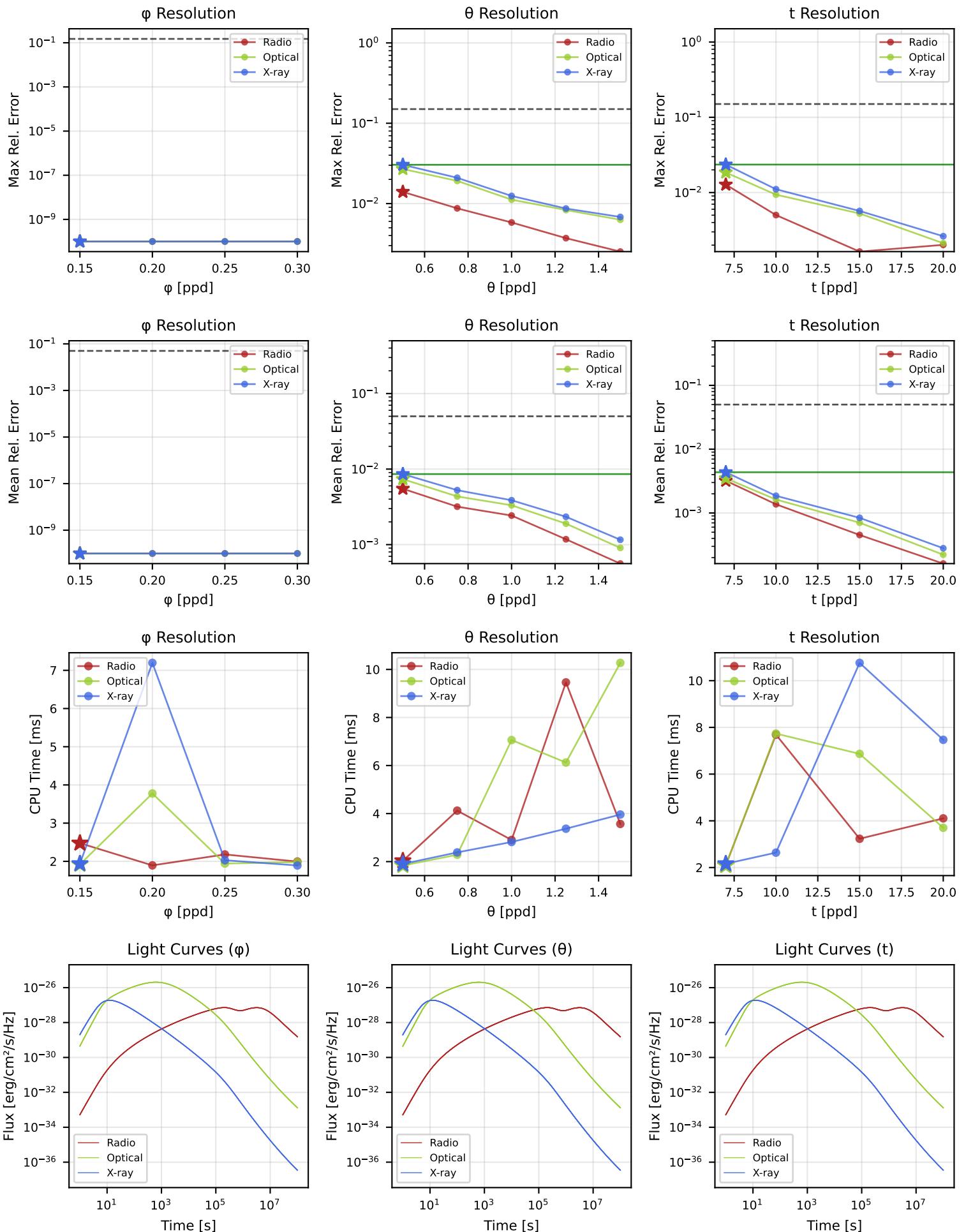
[ACCEPTABLE]

#48: tophat / wind / rvs_sync_thick / $\theta_v/\theta_c=4.0$



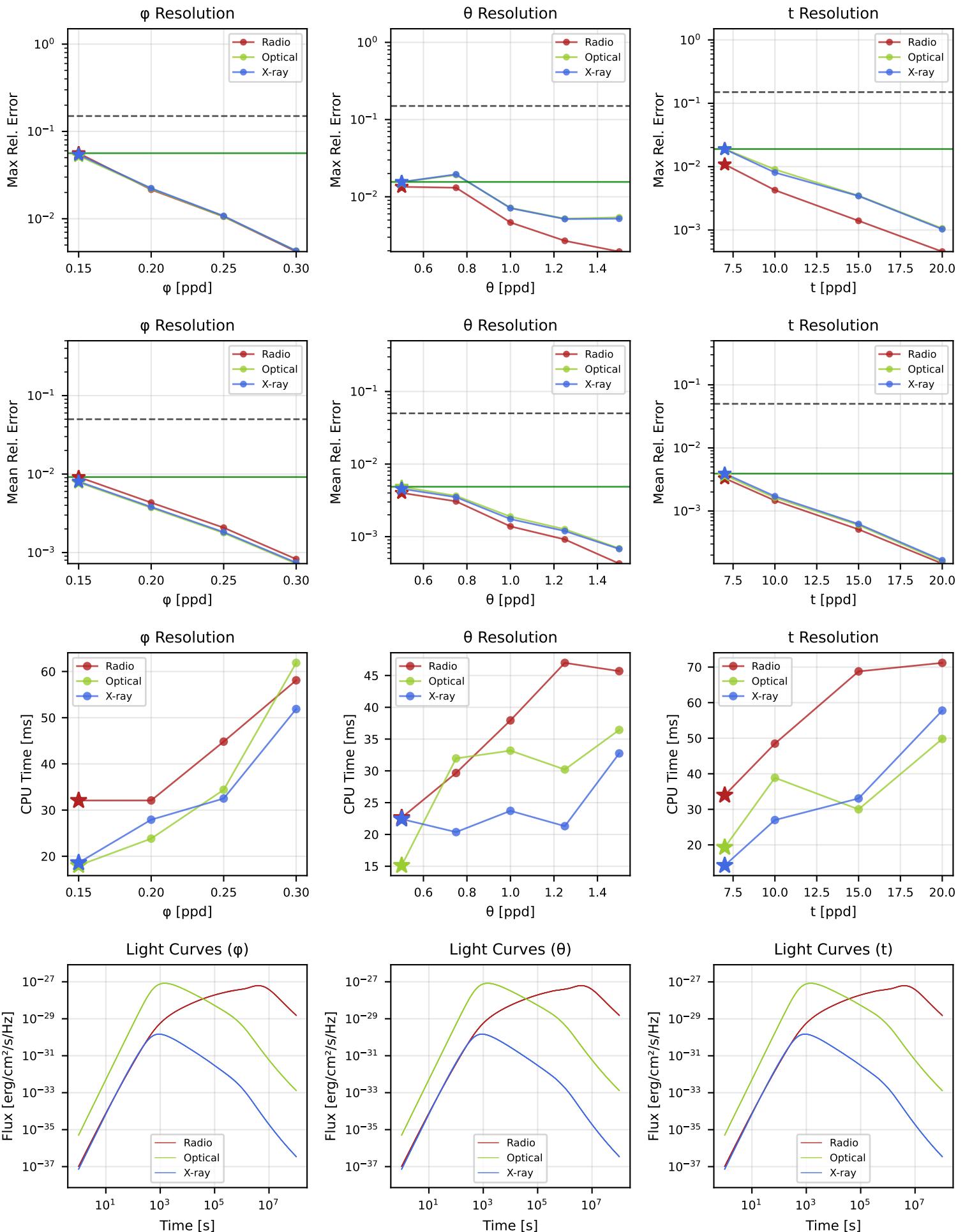
[PASS]

#49: gaussian / ISM / synchrotron / $\theta_v/\theta_c=0.0$



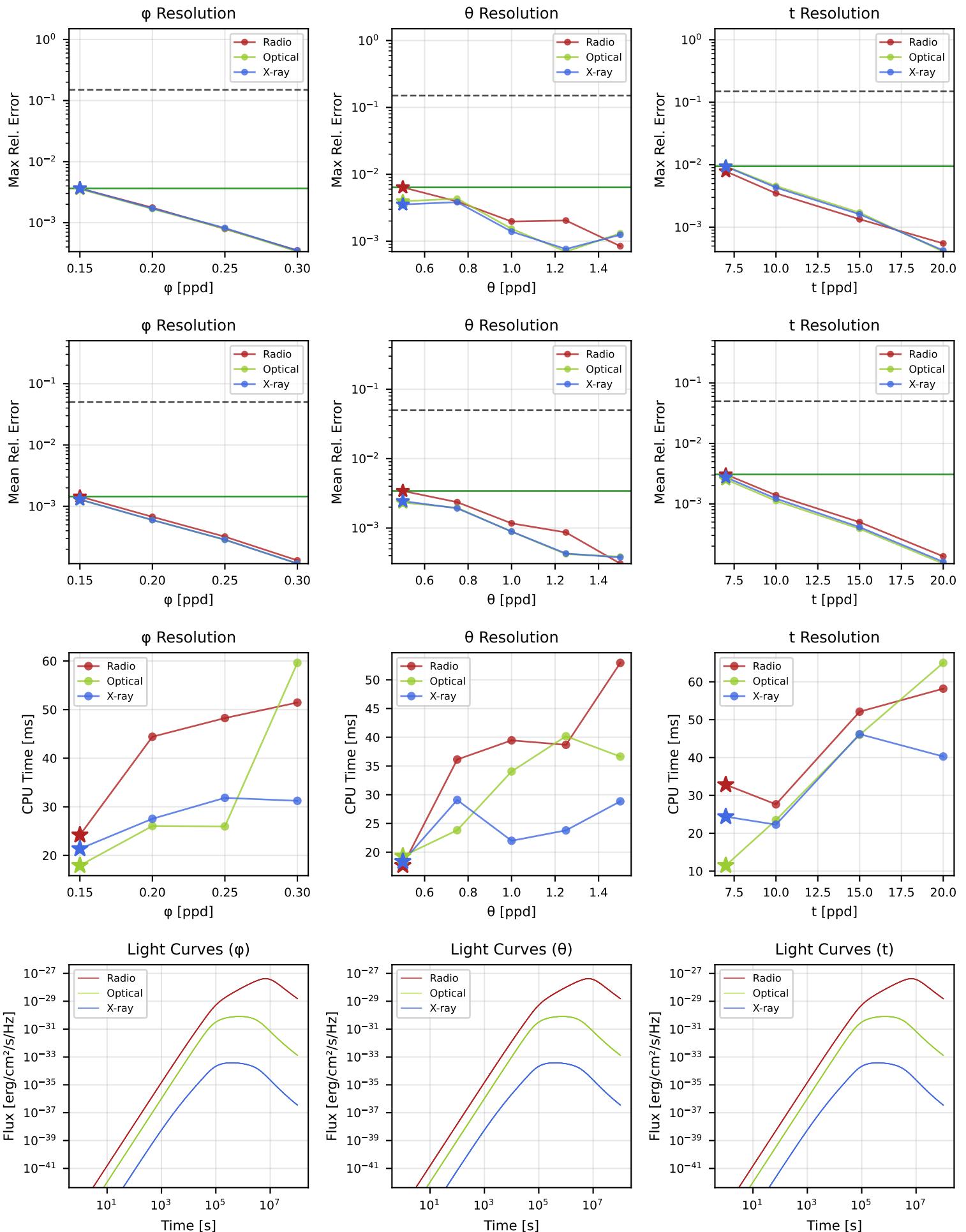
[PASS]

#50: gaussian / ISM / synchrotron / $\theta_v/\theta_c=2.0$



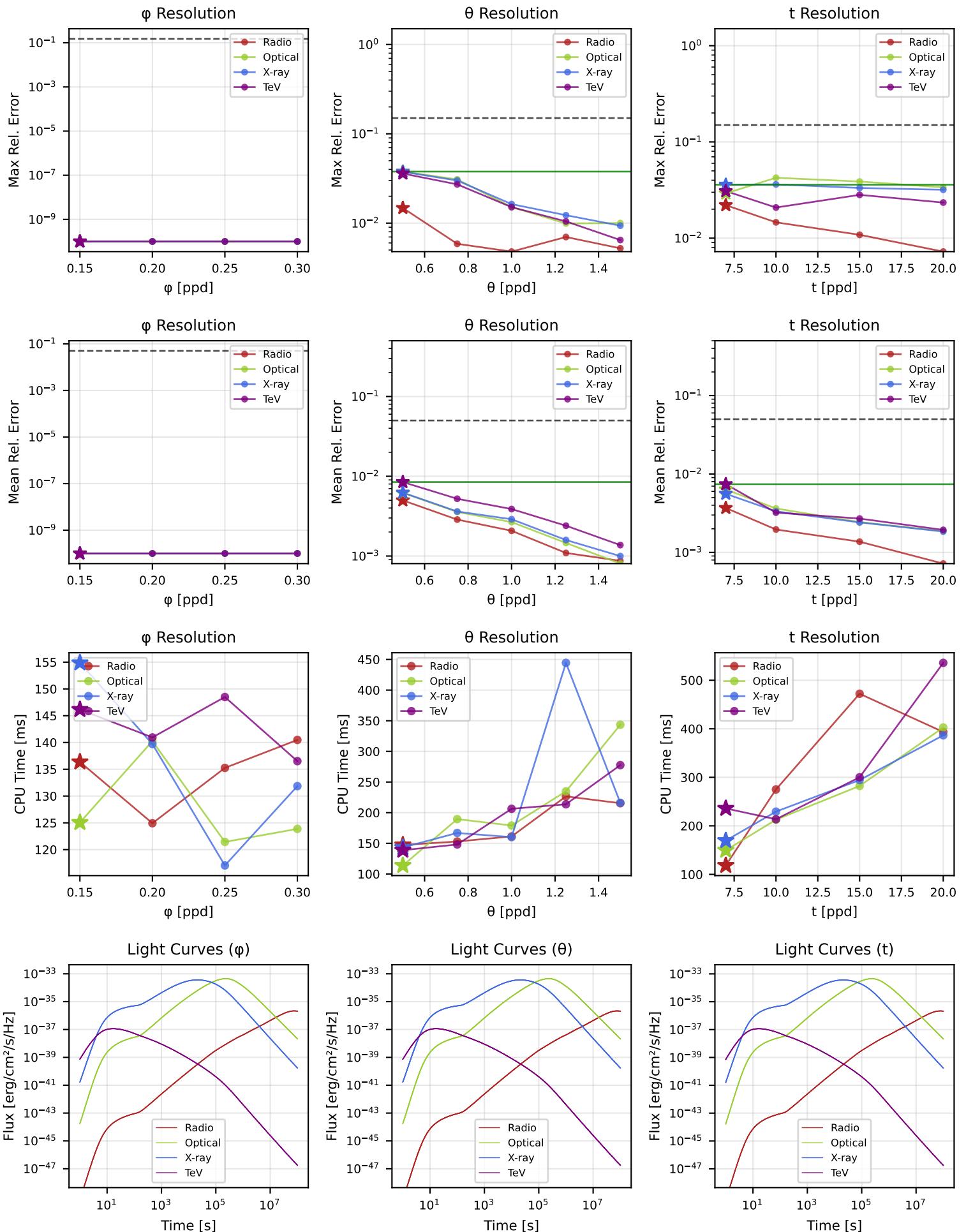
[PASS]

#51: gaussian / ISM / synchrotron / $\theta_v/\theta_c=4.0$



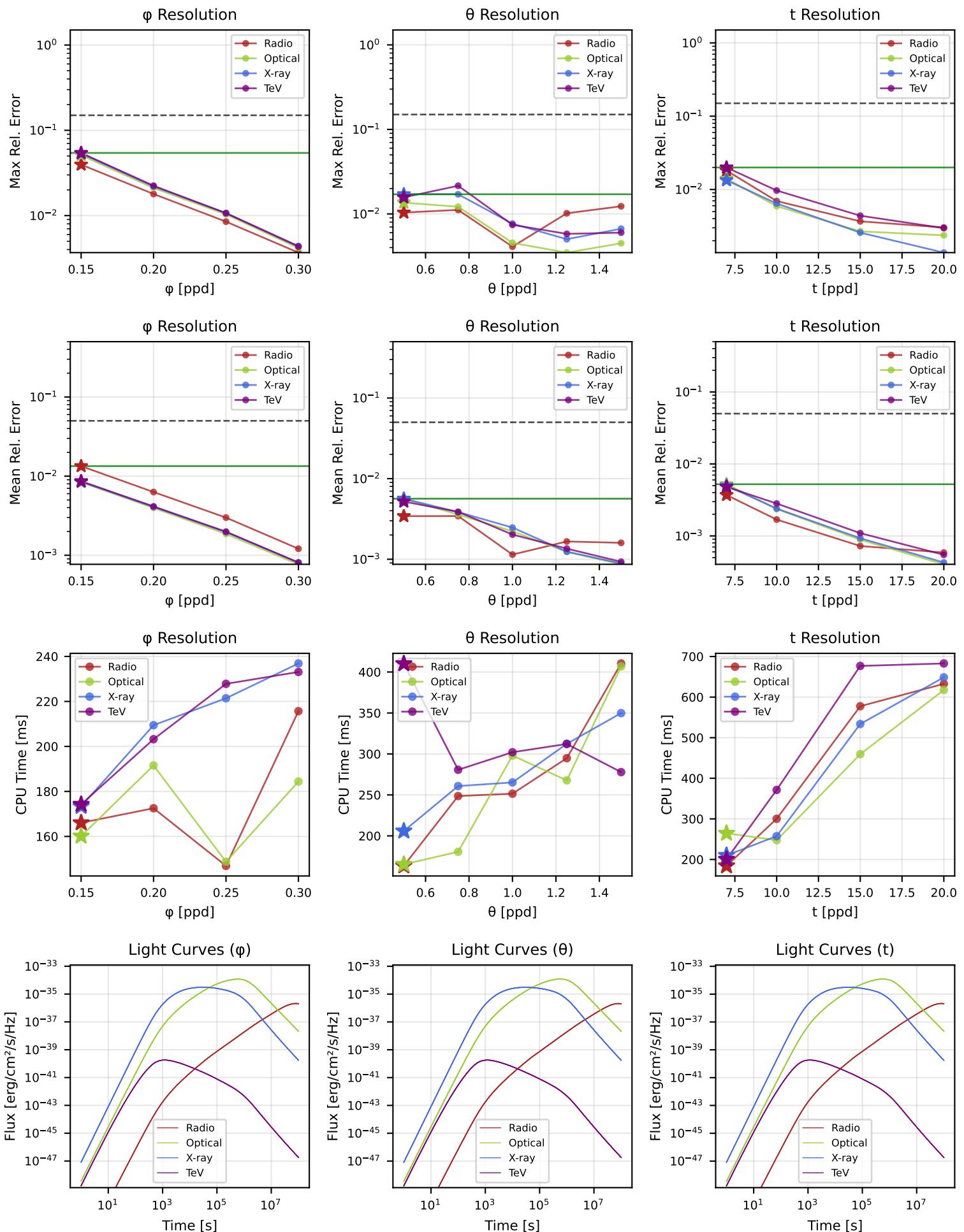
[PASS]

#52: gaussian / ISM / full_ssc / $\theta_v/\theta_c=0.0$



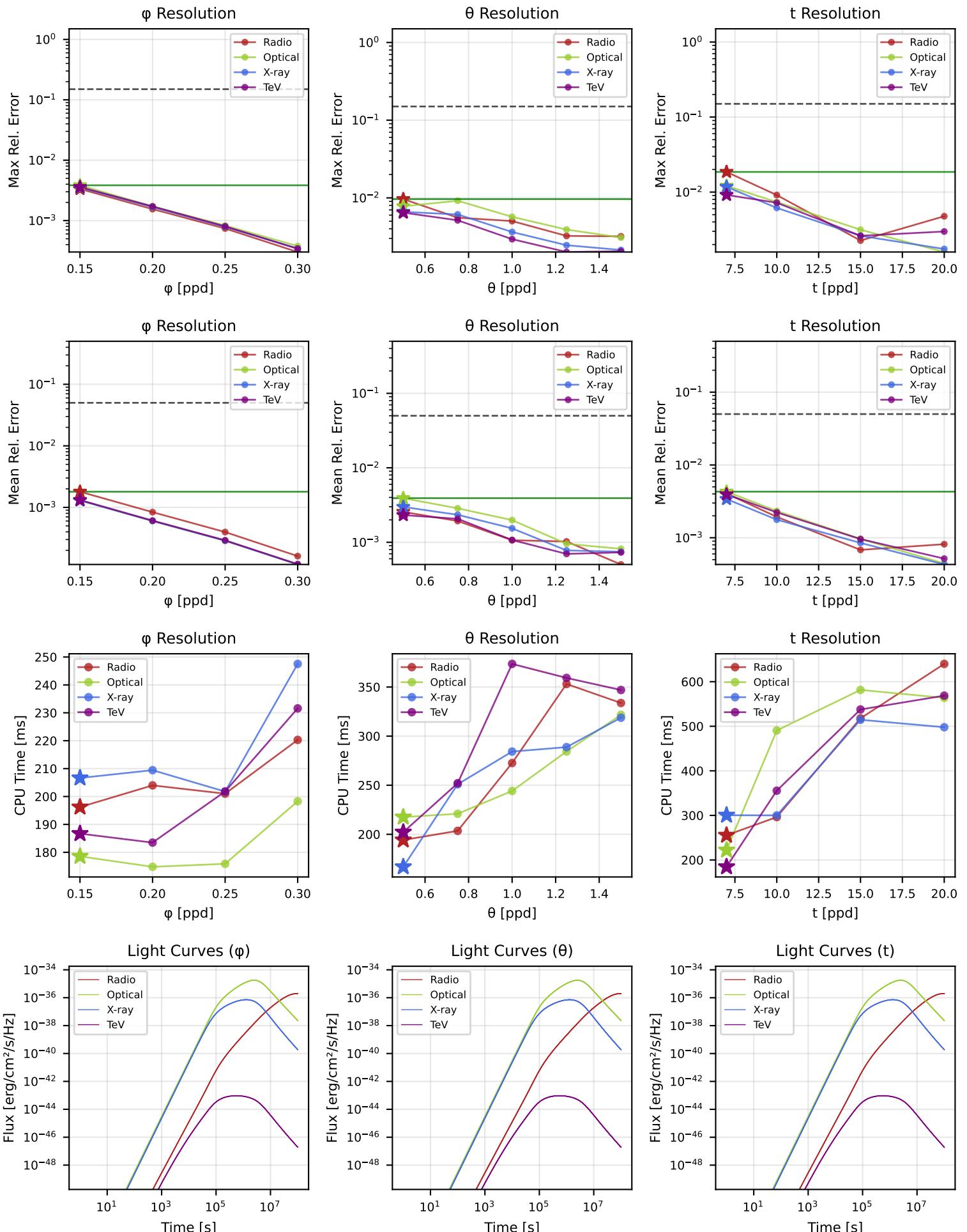
[PASS]

#53: gaussian / ISM / full_ssc / $\theta_v/\theta_c=2.0$



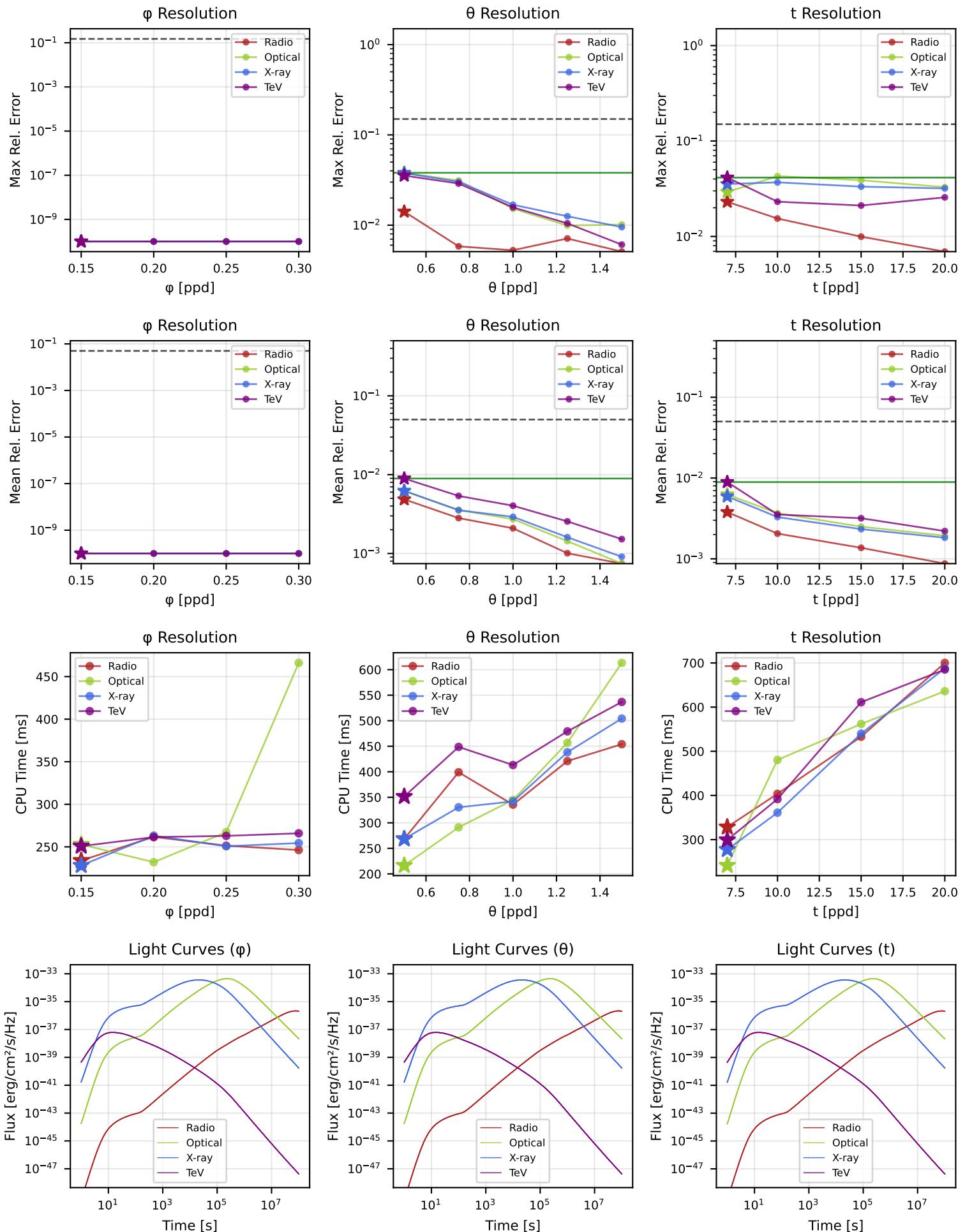
[PASS]

#54: gaussian / ISM / full_ssc / $\theta_v/\theta_c=4.0$



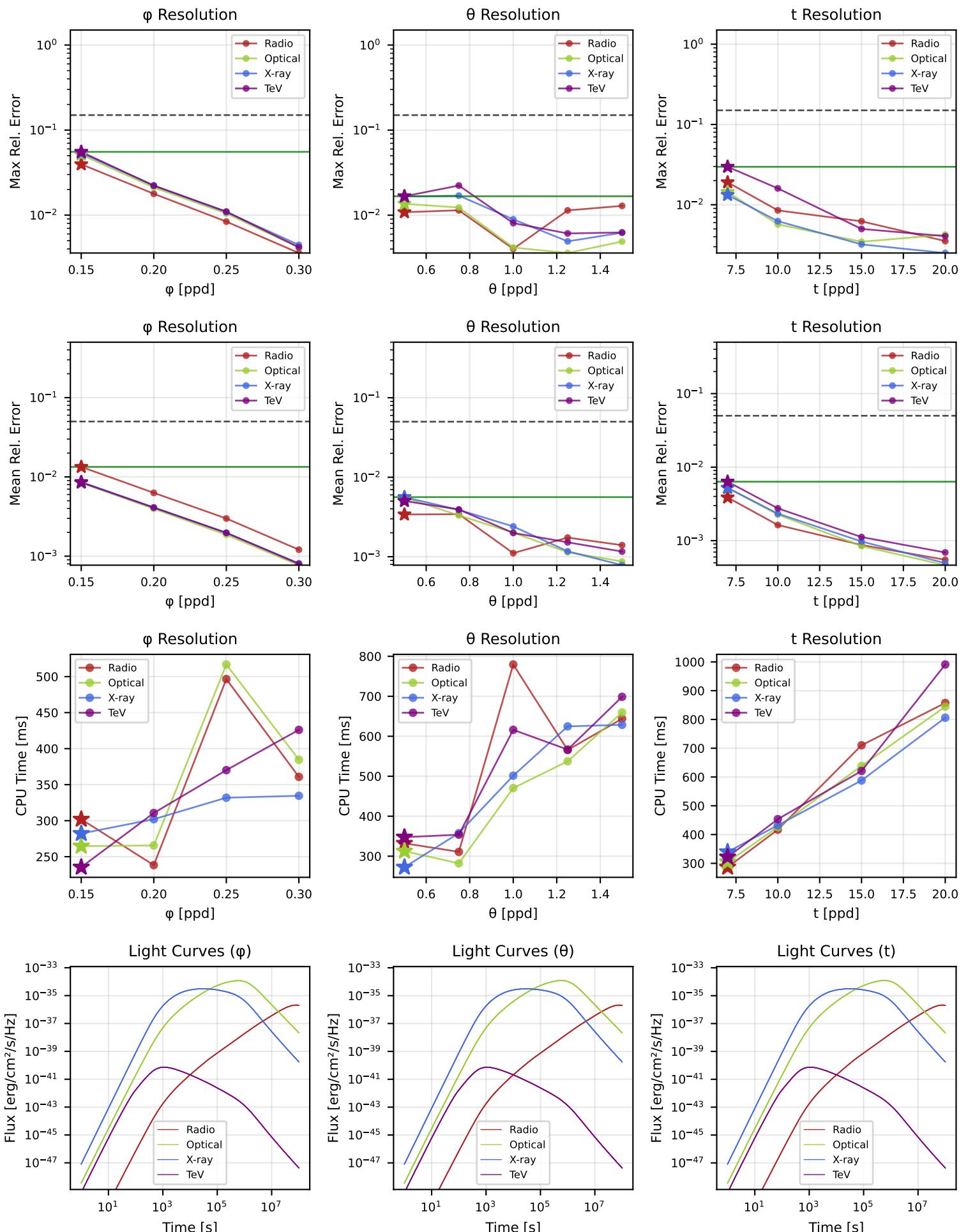
[PASS]

#55: gaussian / ISM / ssc_kn / $\theta_v/\theta_c=0.0$



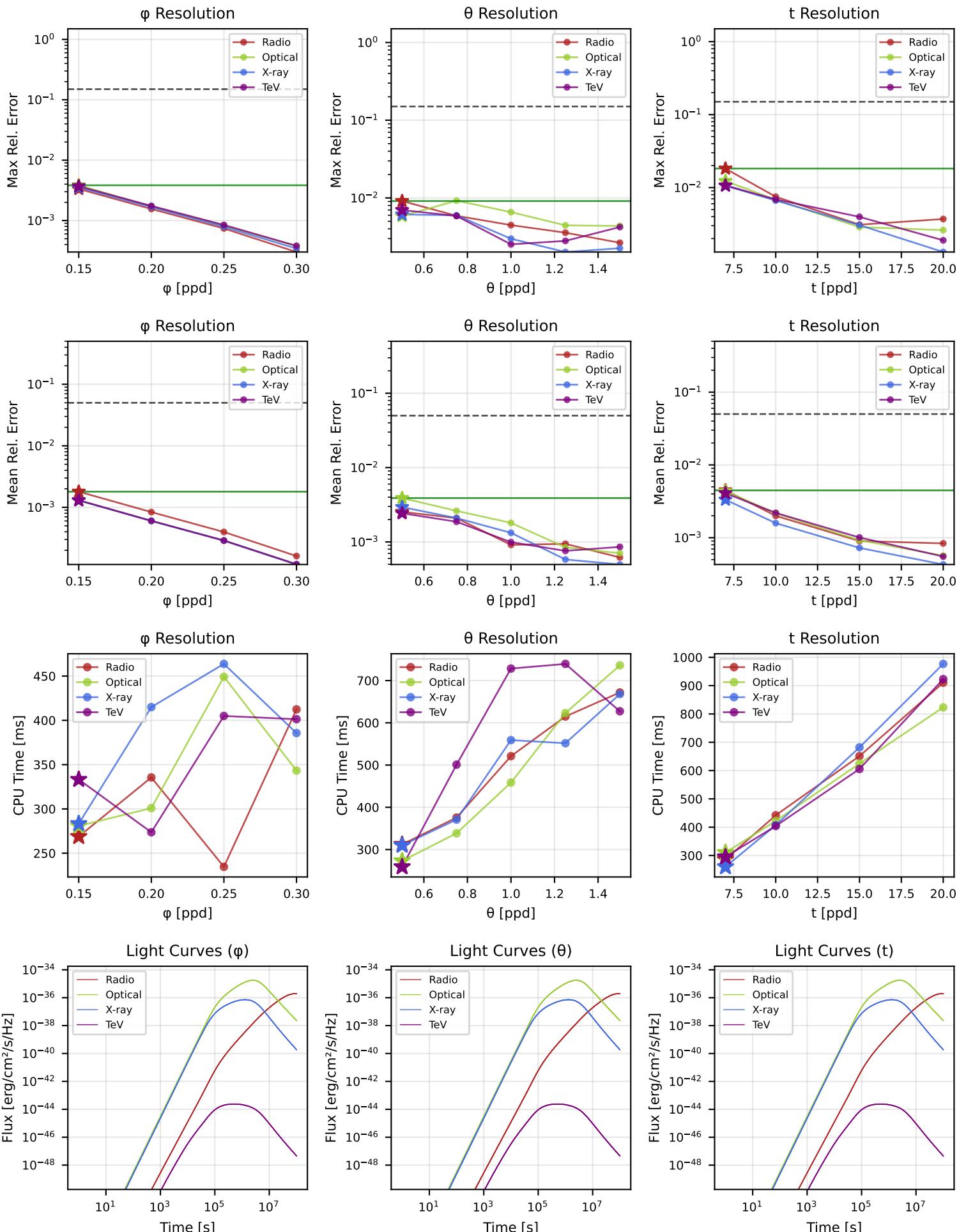
[PASS]

#56: gaussian / ISM / ssc_kn / $\theta_v/\theta_c=2.0$



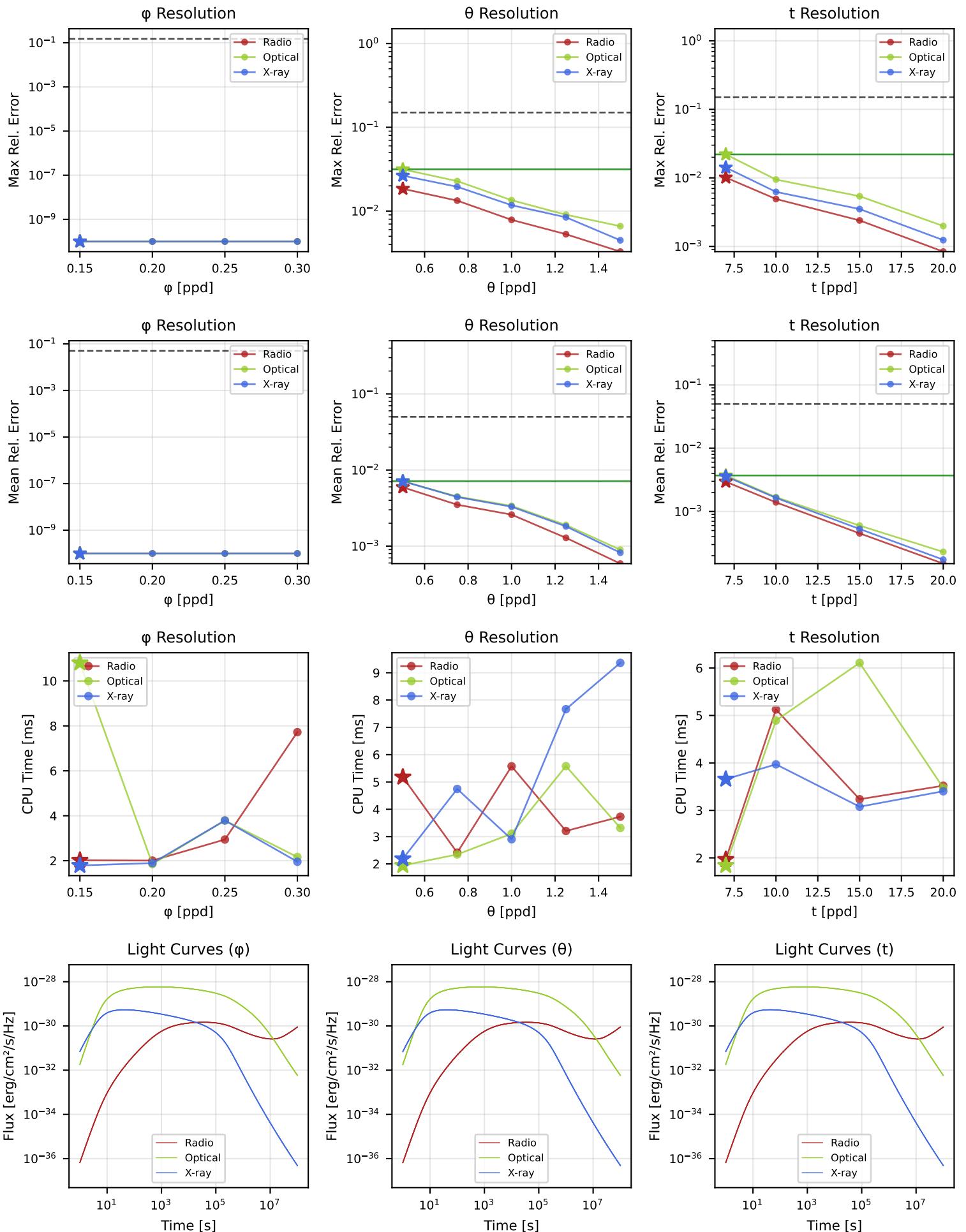
[PASS]

#57: gaussian / ISM / ssc_kn / $\theta_v/\theta_c=4.0$



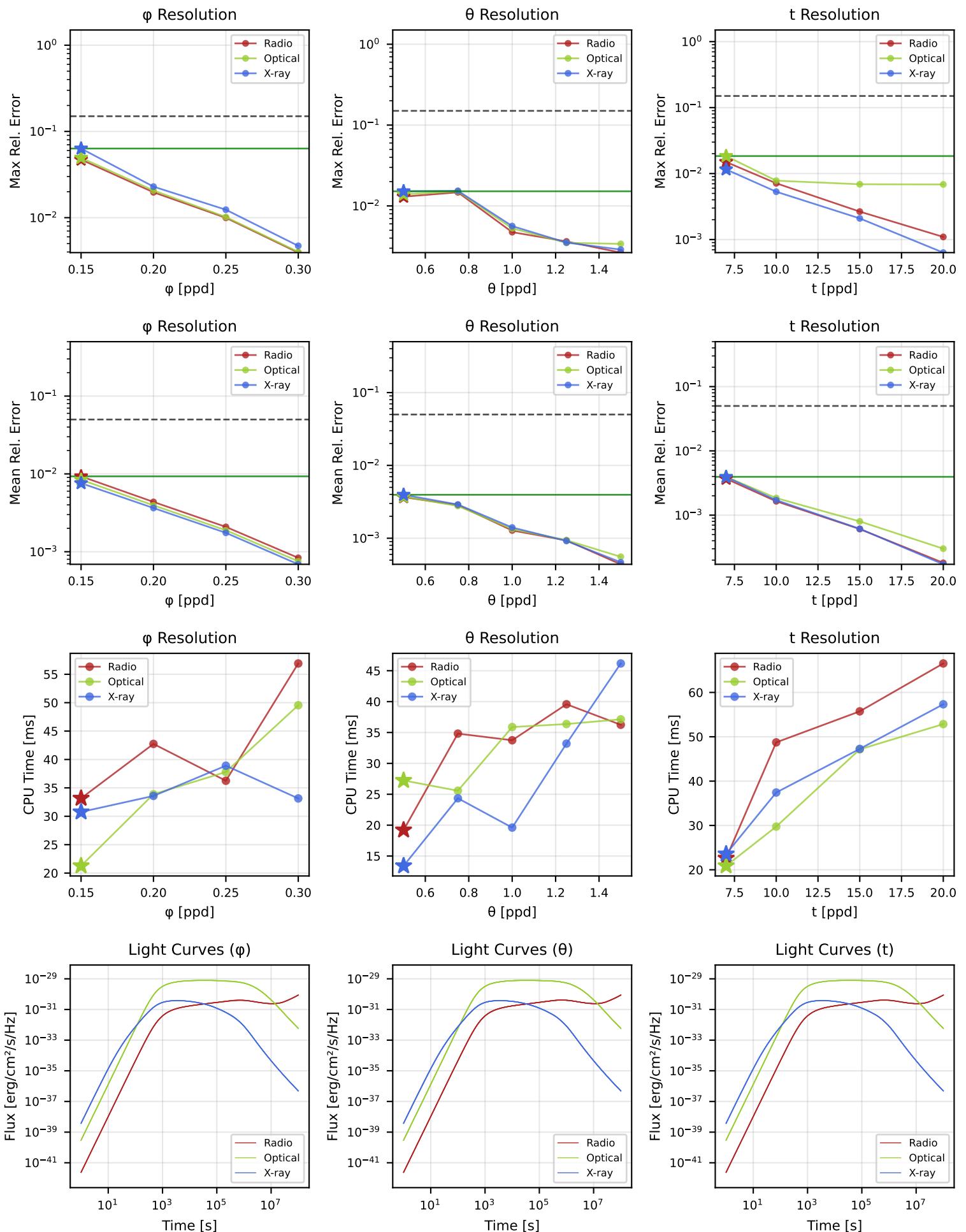
[PASS]

#58: gaussian / ISM / fast_cooling / $\theta_v/\theta_c=0.0$



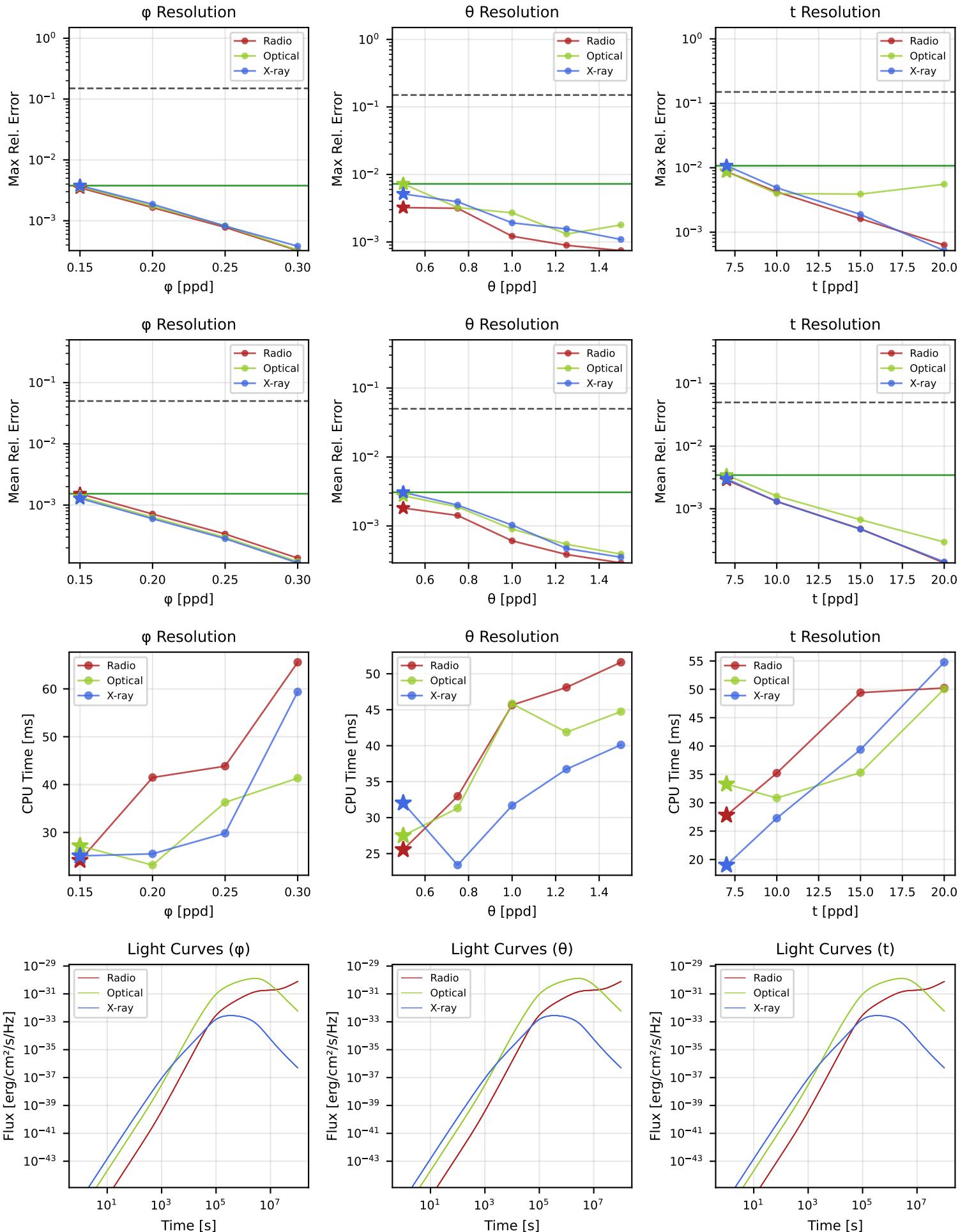
[PASS]

#59: gaussian / ISM / fast_cooling / $\theta_v/\theta_c=2.0$



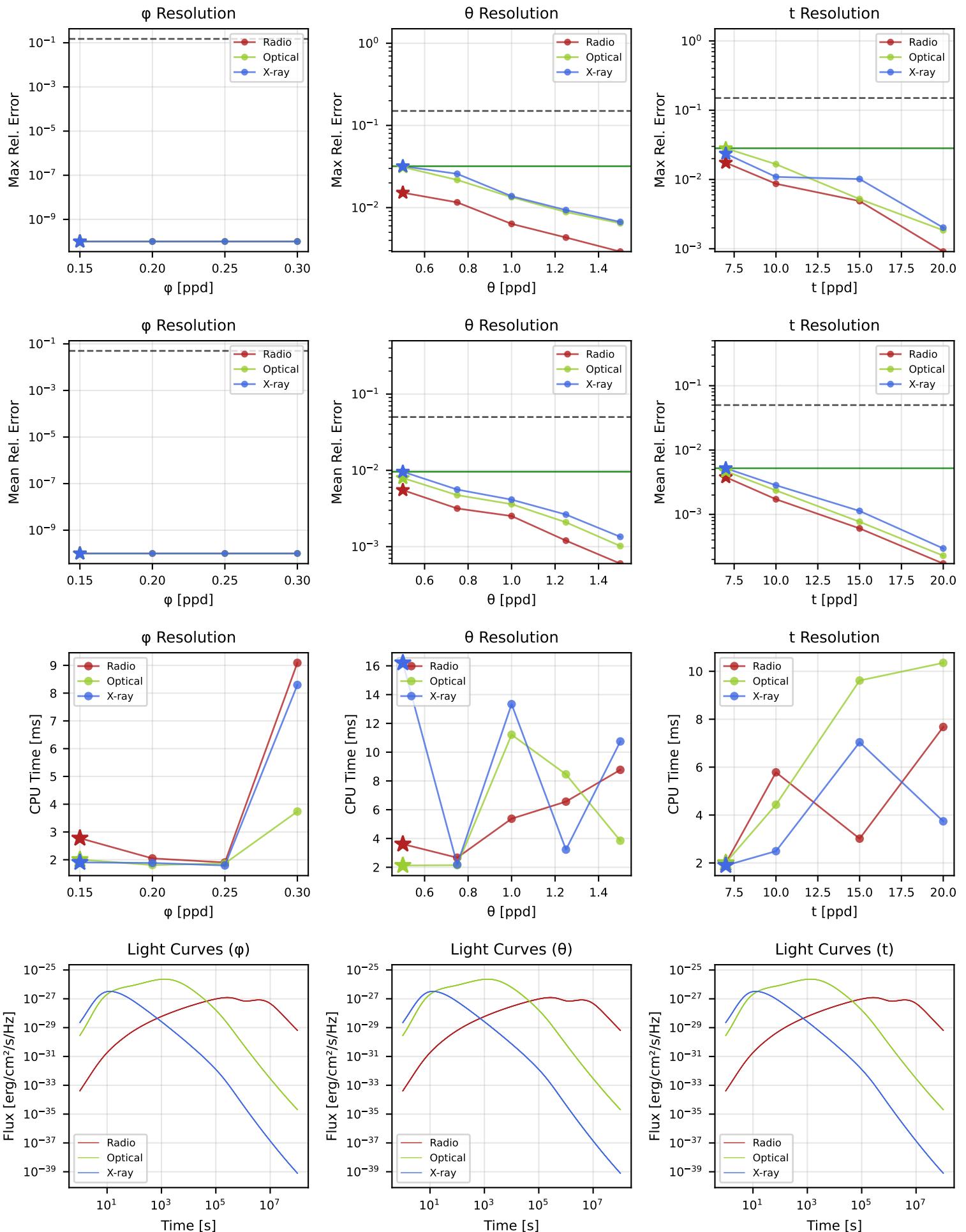
[PASS]

#60: gaussian / ISM / fast_cooling / $\theta_v/\theta_c=4.0$



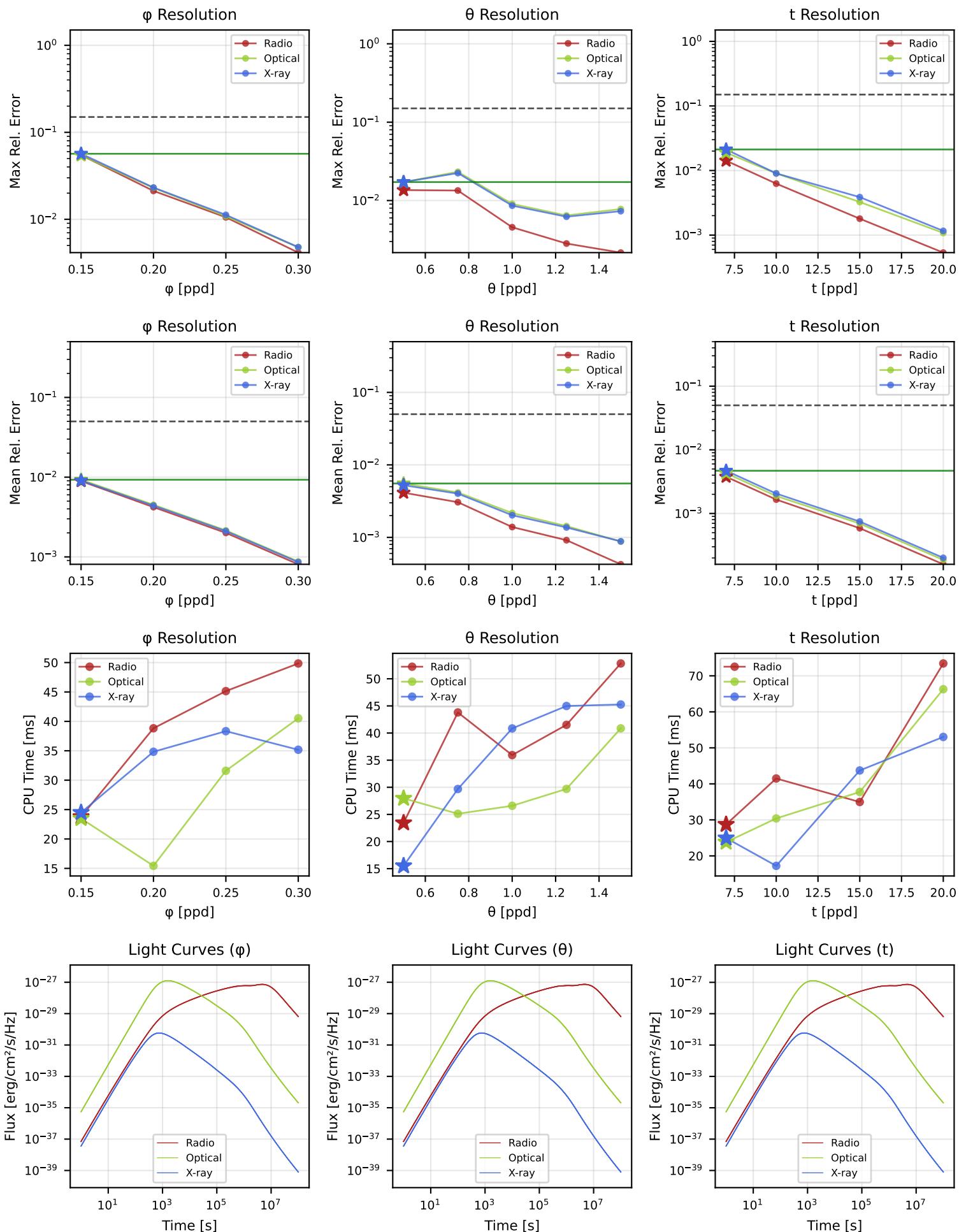
[PASS]

#61: gaussian / ISM / steep_spectrum / $\theta_v/\theta_c=0.0$

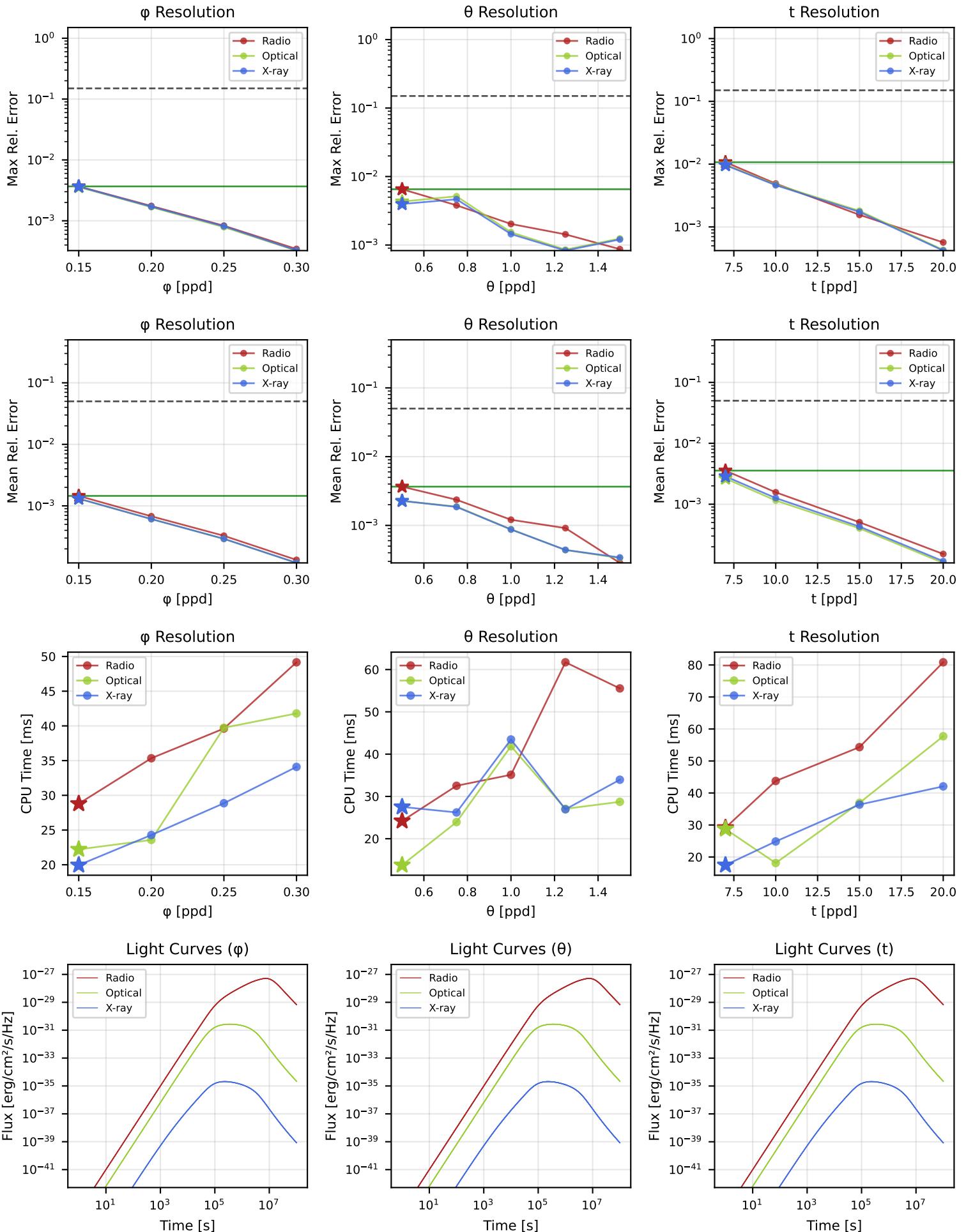


[PASS]

#62: gaussian / ISM / steep_spectrum / $\theta_v/\theta_c=2.0$

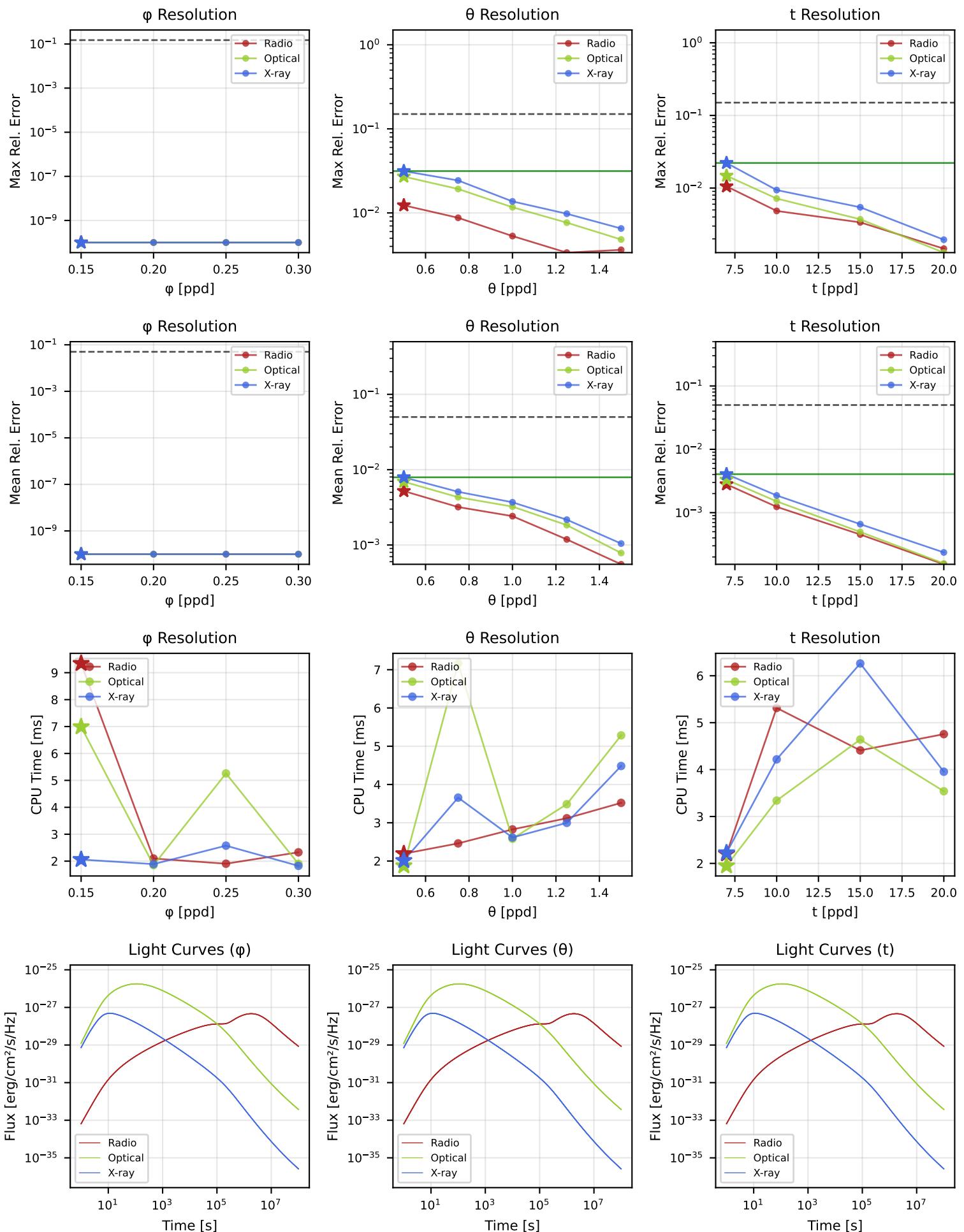


[PASS]

#63: gaussian / ISM / steep_spectrum / $\theta_v/\theta_c=4.0$ 

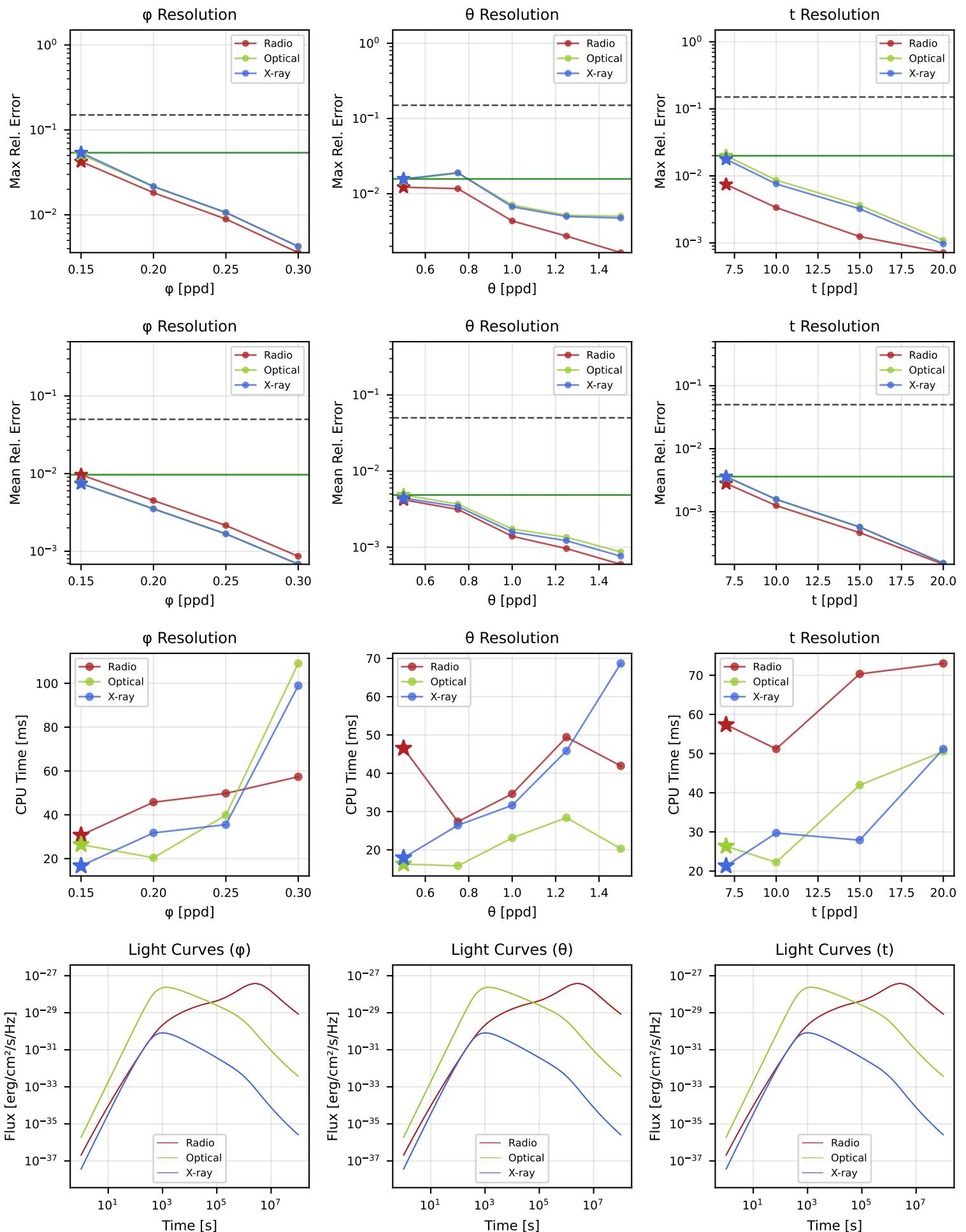
[PASS]

#64: gaussian / ISM / flat_spectrum / $\theta_v/\theta_c=0.0$



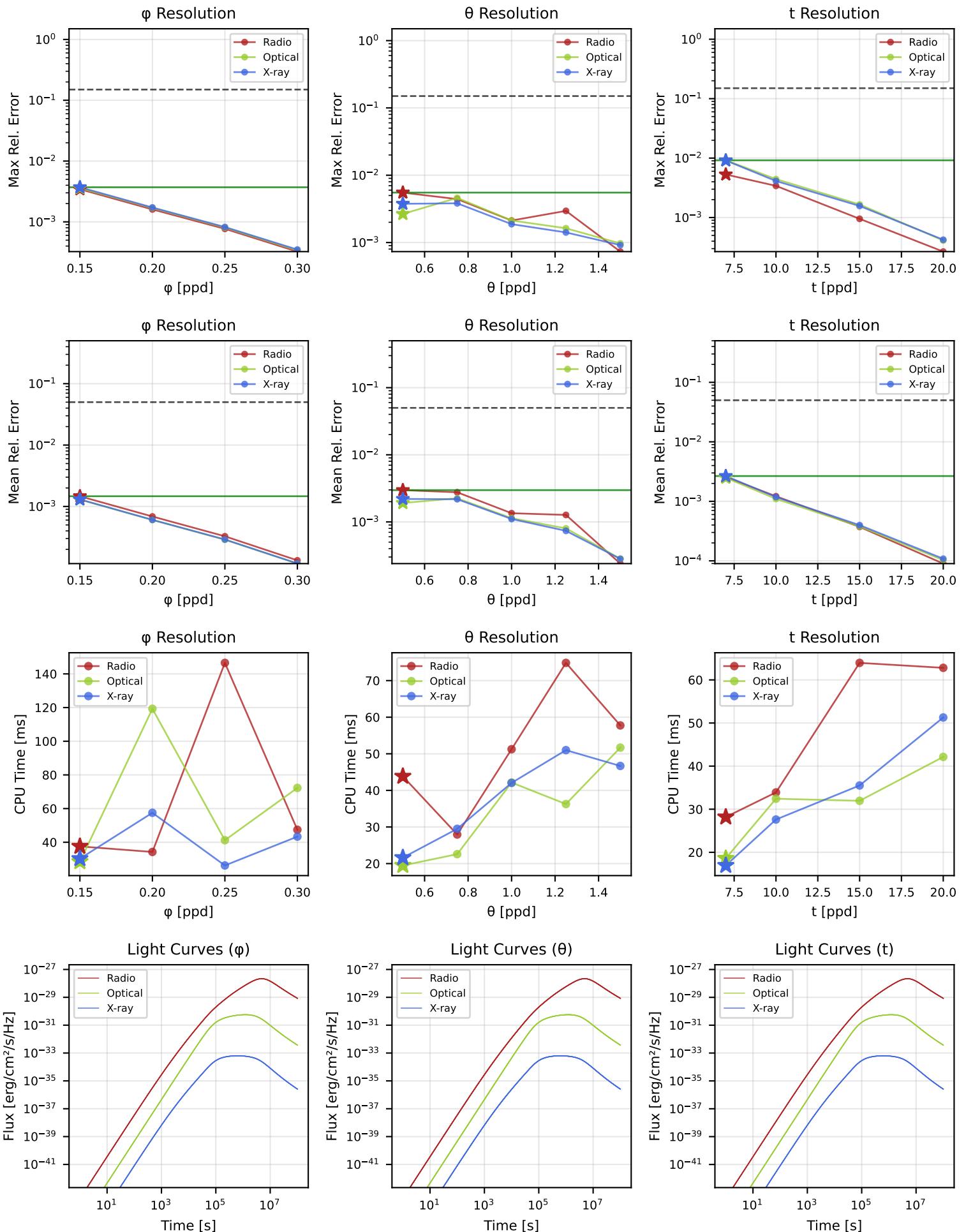
[PASS]

#65: gaussian / ISM / flat_spectrum / $\theta_v/\theta_c=2.0$



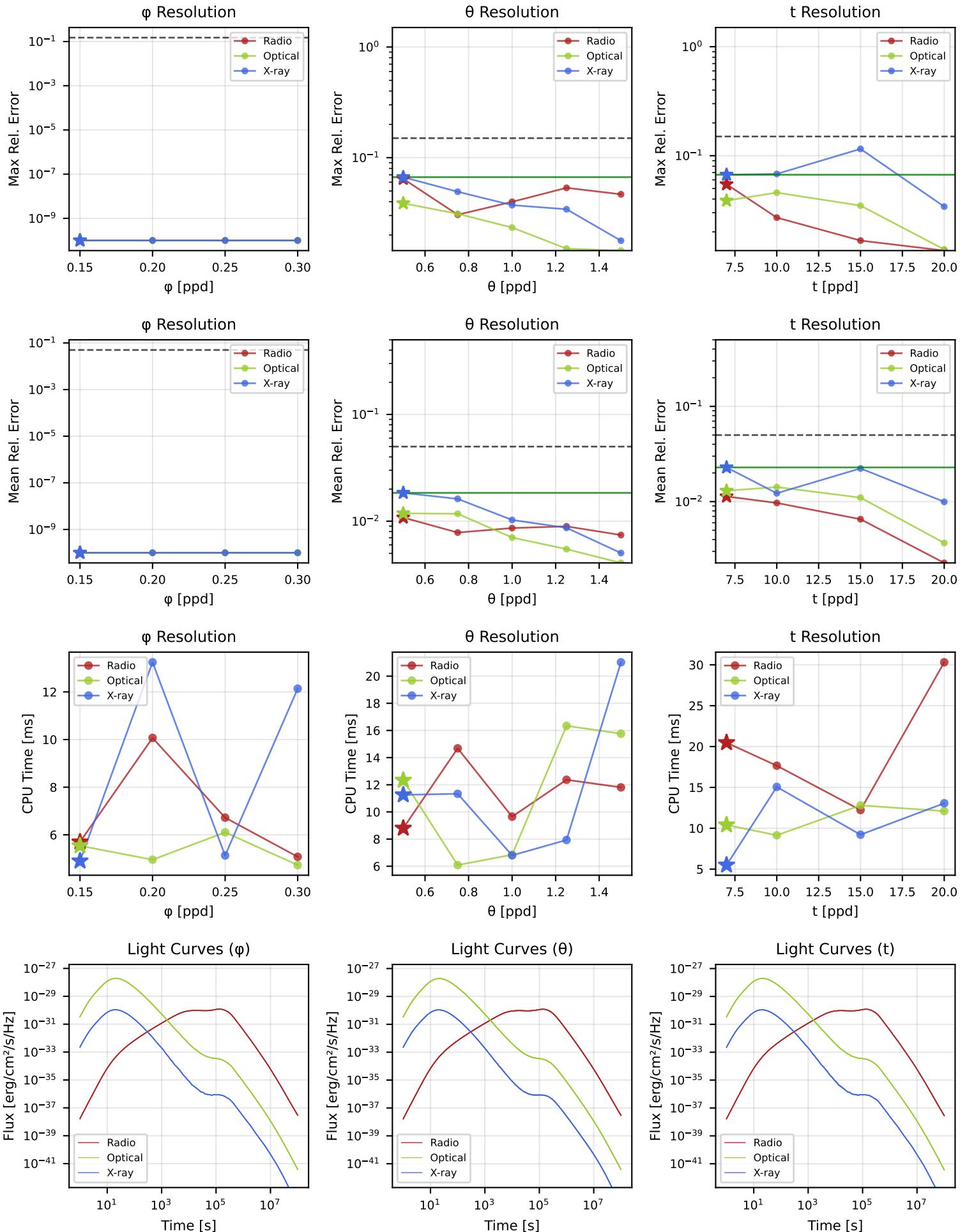
[PASS]

#66: gaussian / ISM / flat_spectrum / $\theta_v/\theta_c=4.0$



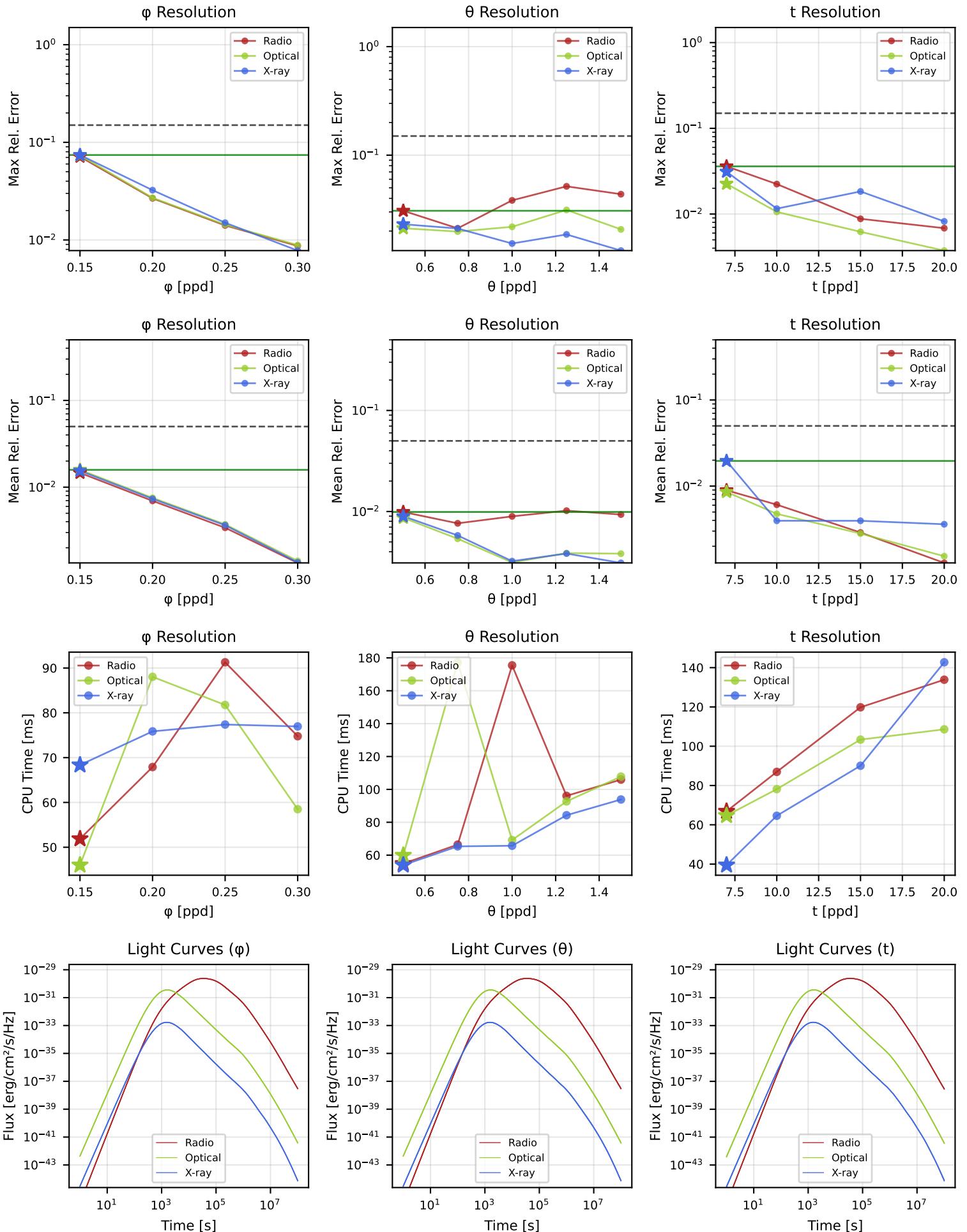
[PASS]

#67: gaussian / ISM / rvs_sync_thin / $\theta_v/\theta_c=0.0$



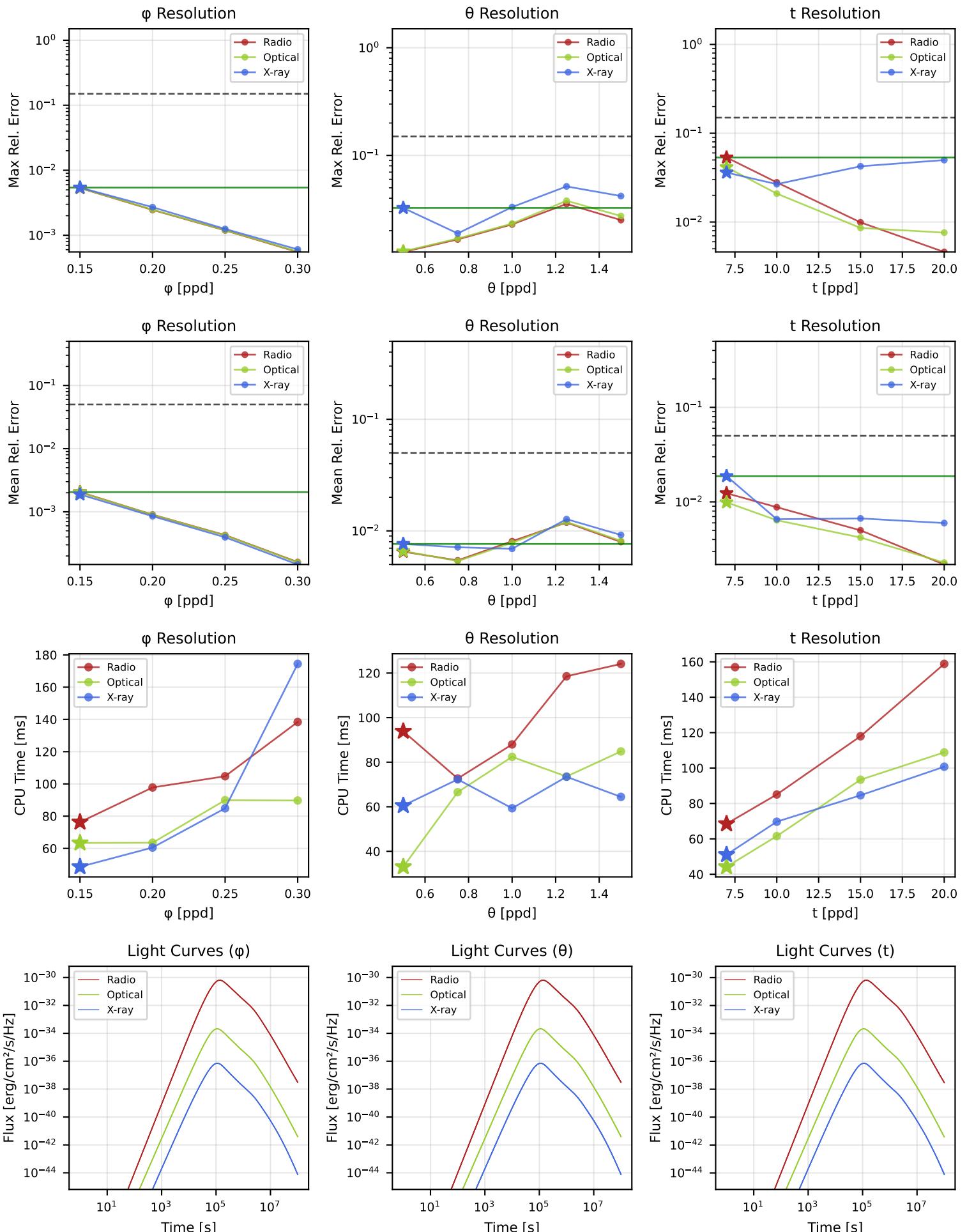
[PASS]

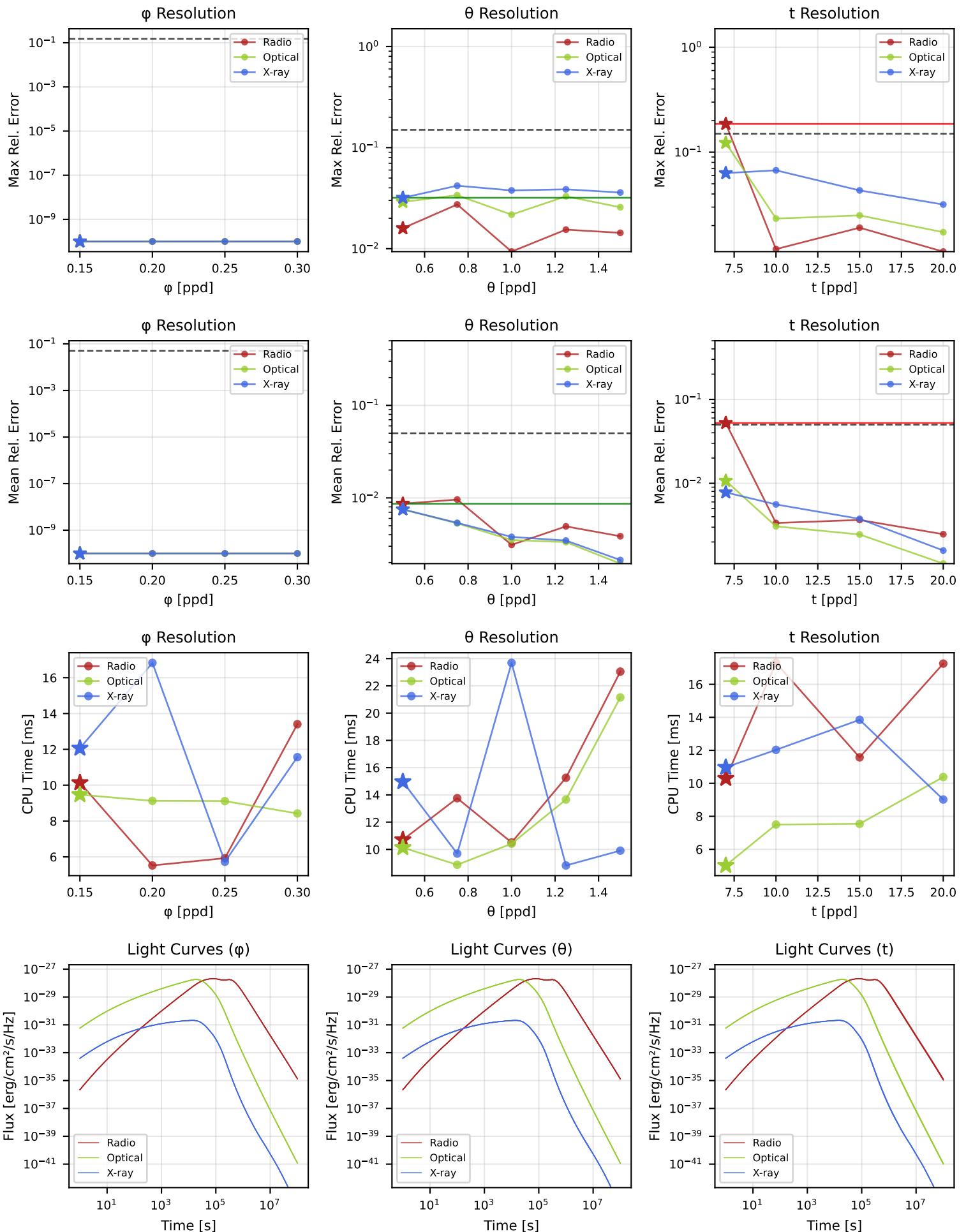
#68: gaussian / ISM / rvs_sync_thin / $\theta_v/\theta_c=2.0$



[PASS]

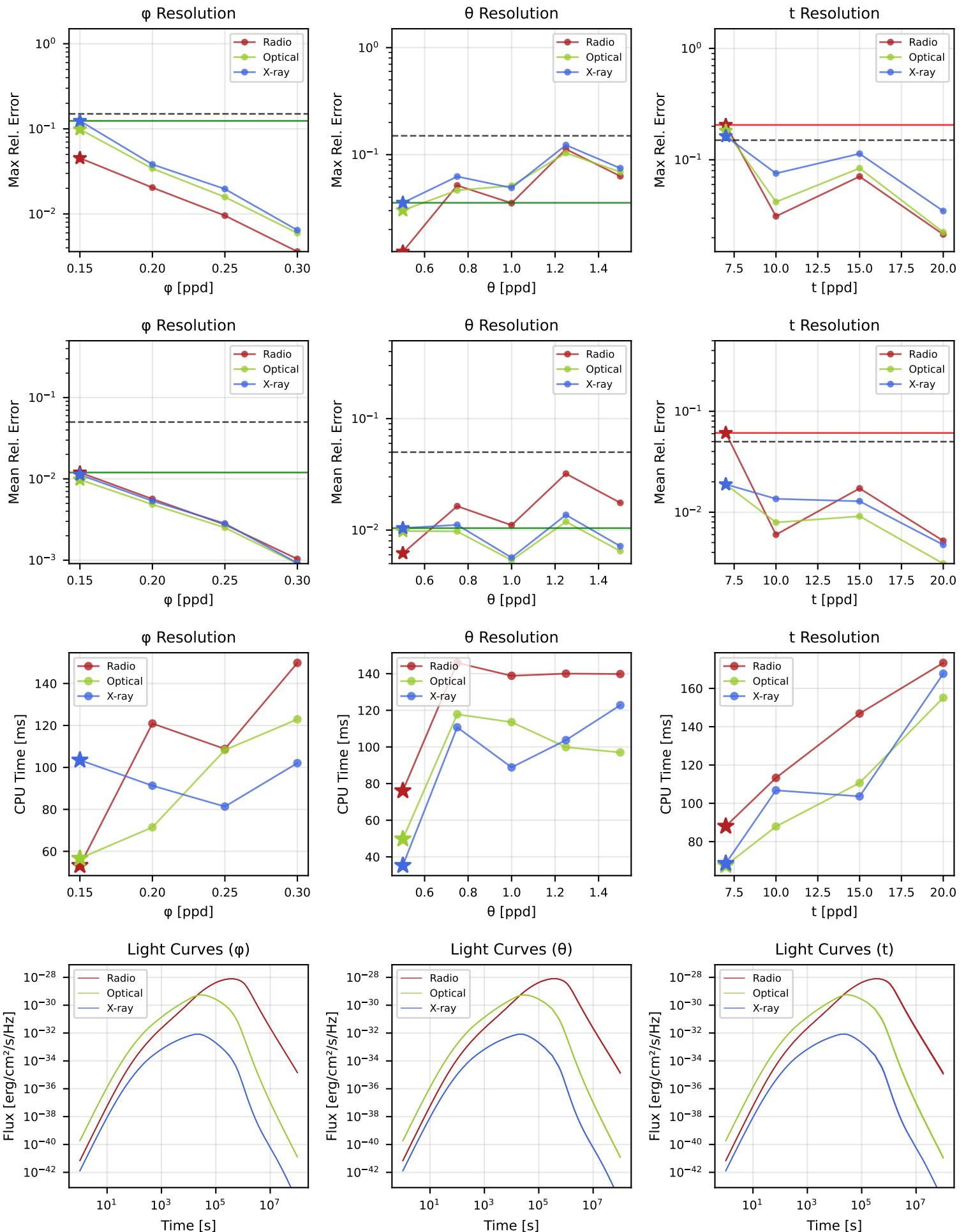
#69: gaussian / ISM / rvs_sync_thin / $\theta_v/\theta_c=4.0$



[FAIL]#70: gaussian / ISM / rvs_sync_thick / $\theta_v/\theta_c=0.0$ 

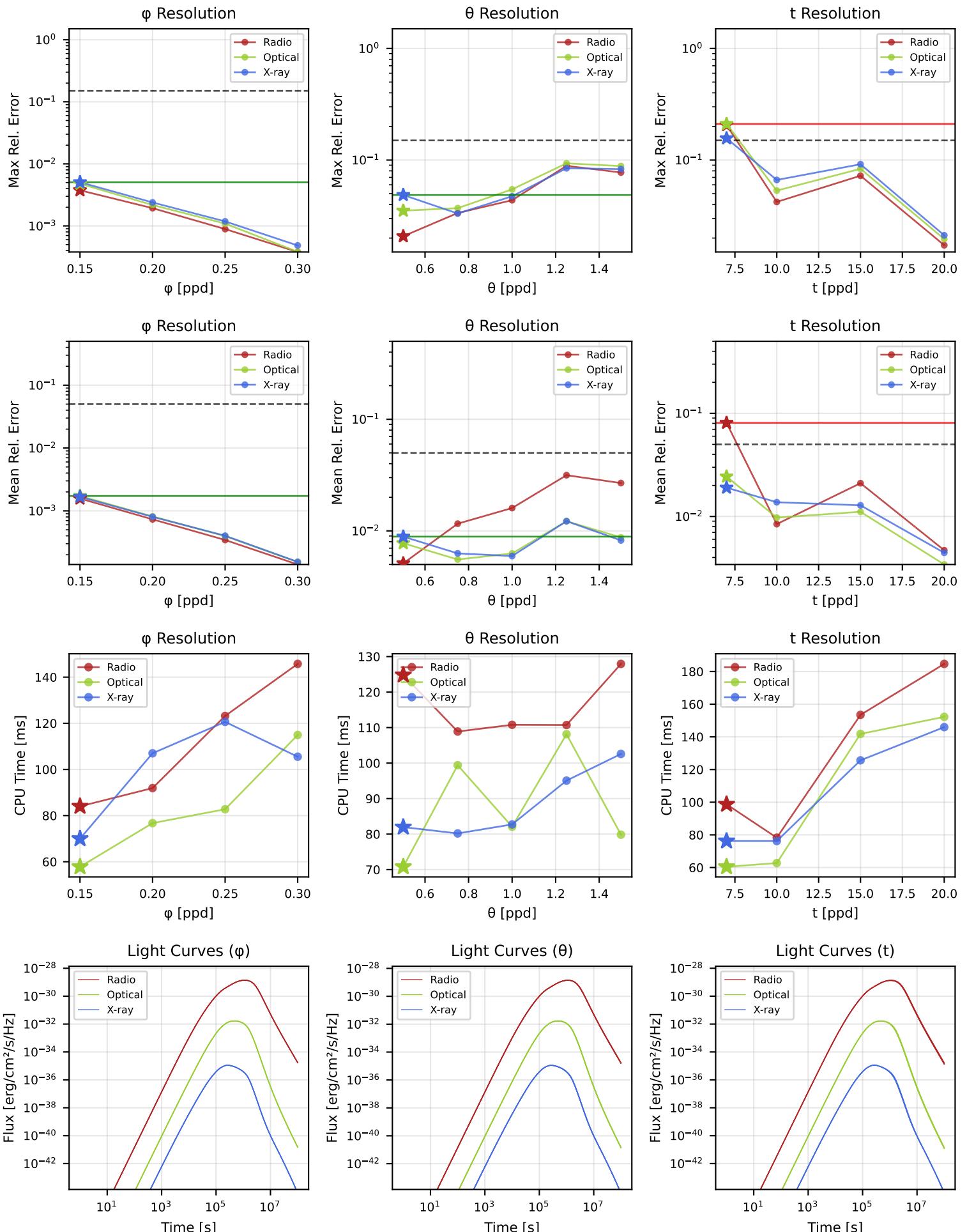
[FAIL]

#71: gaussian / ISM / rvs_sync_thick / $\theta_v/\theta_c=2.0$



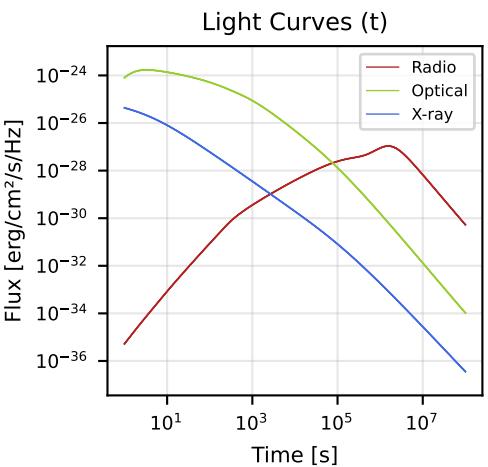
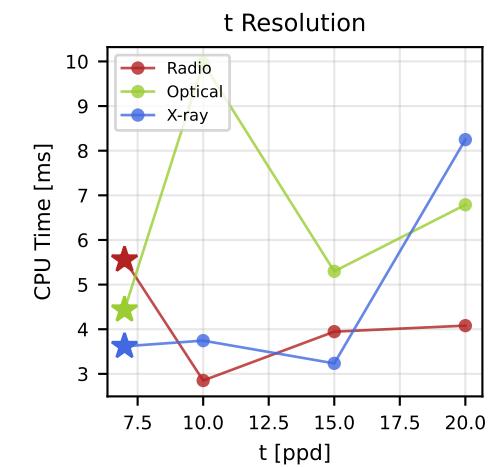
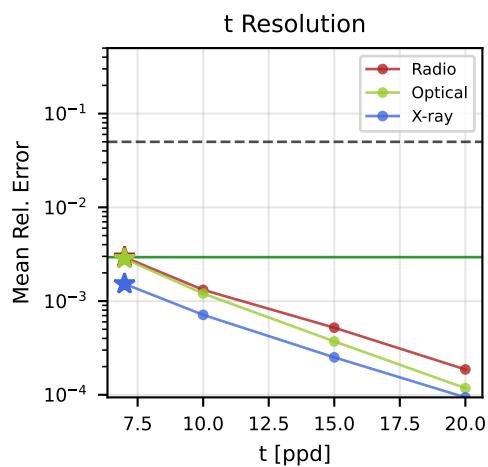
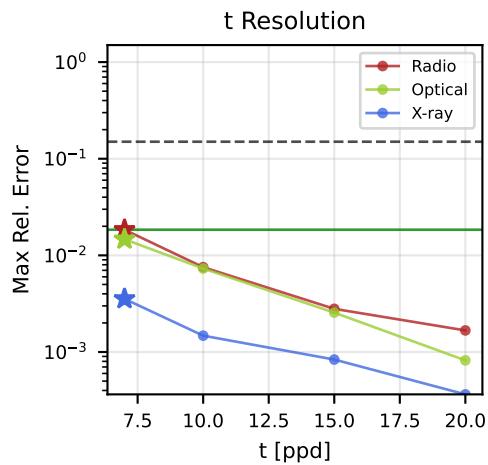
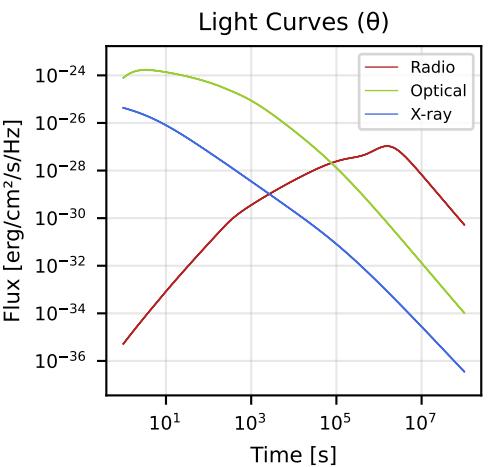
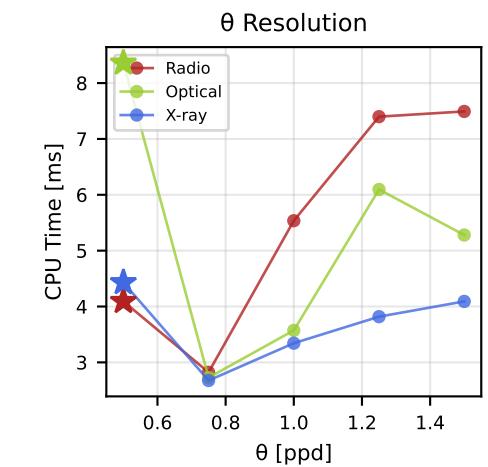
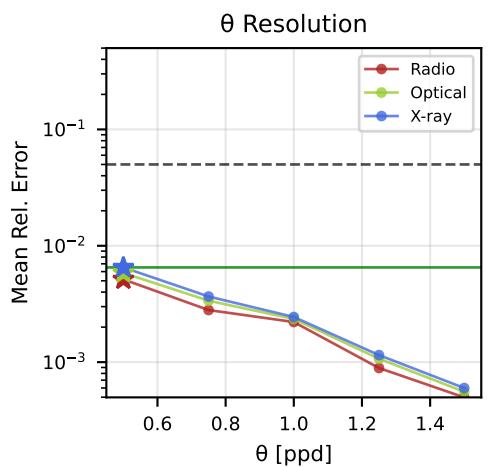
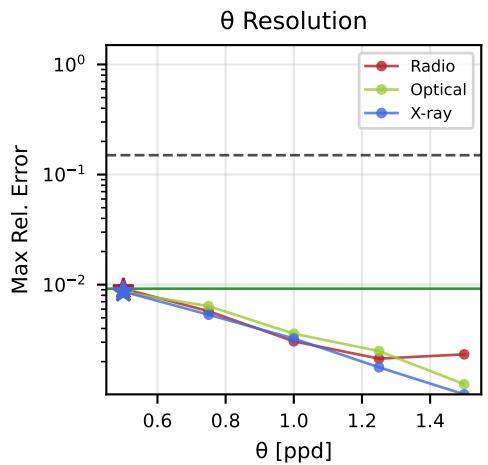
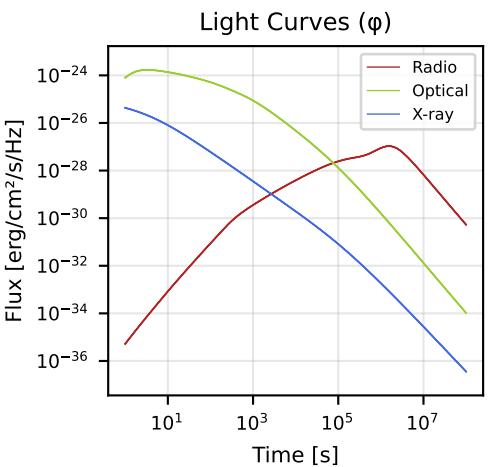
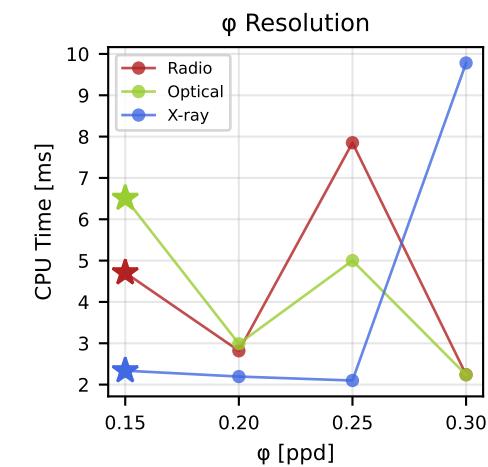
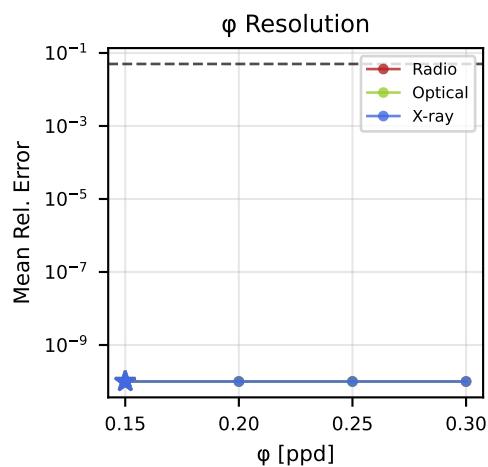
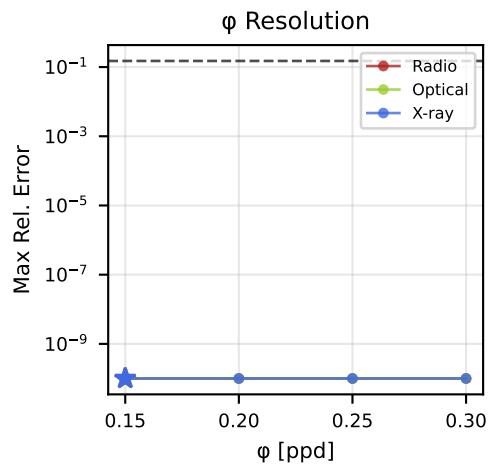
[FAIL]

#72: gaussian / ISM / rvs_sync_thick / $\theta_v/\theta_c=4.0$



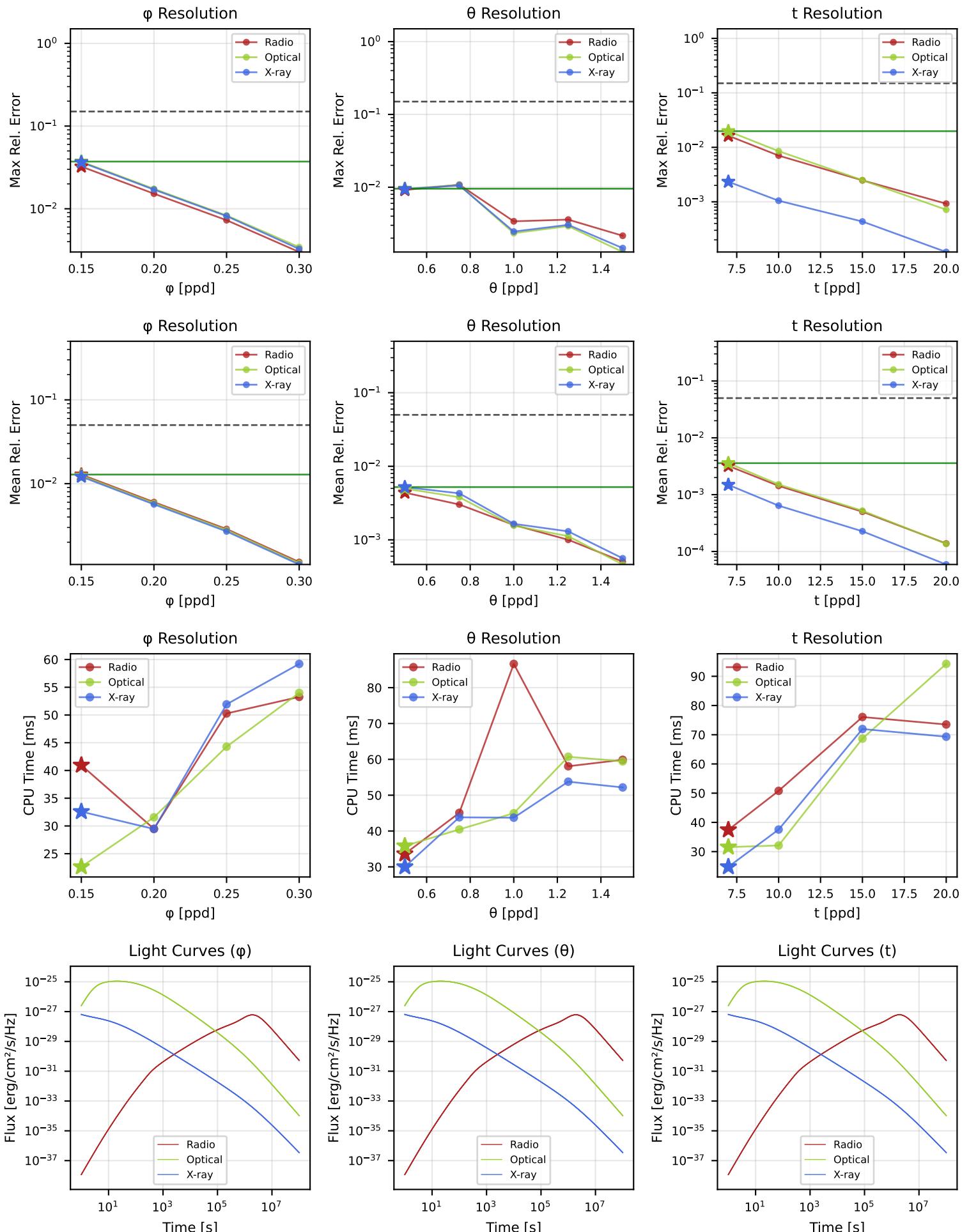
[PASS]

#73: gaussian / wind / synchrotron / θ v/θ c=0.0



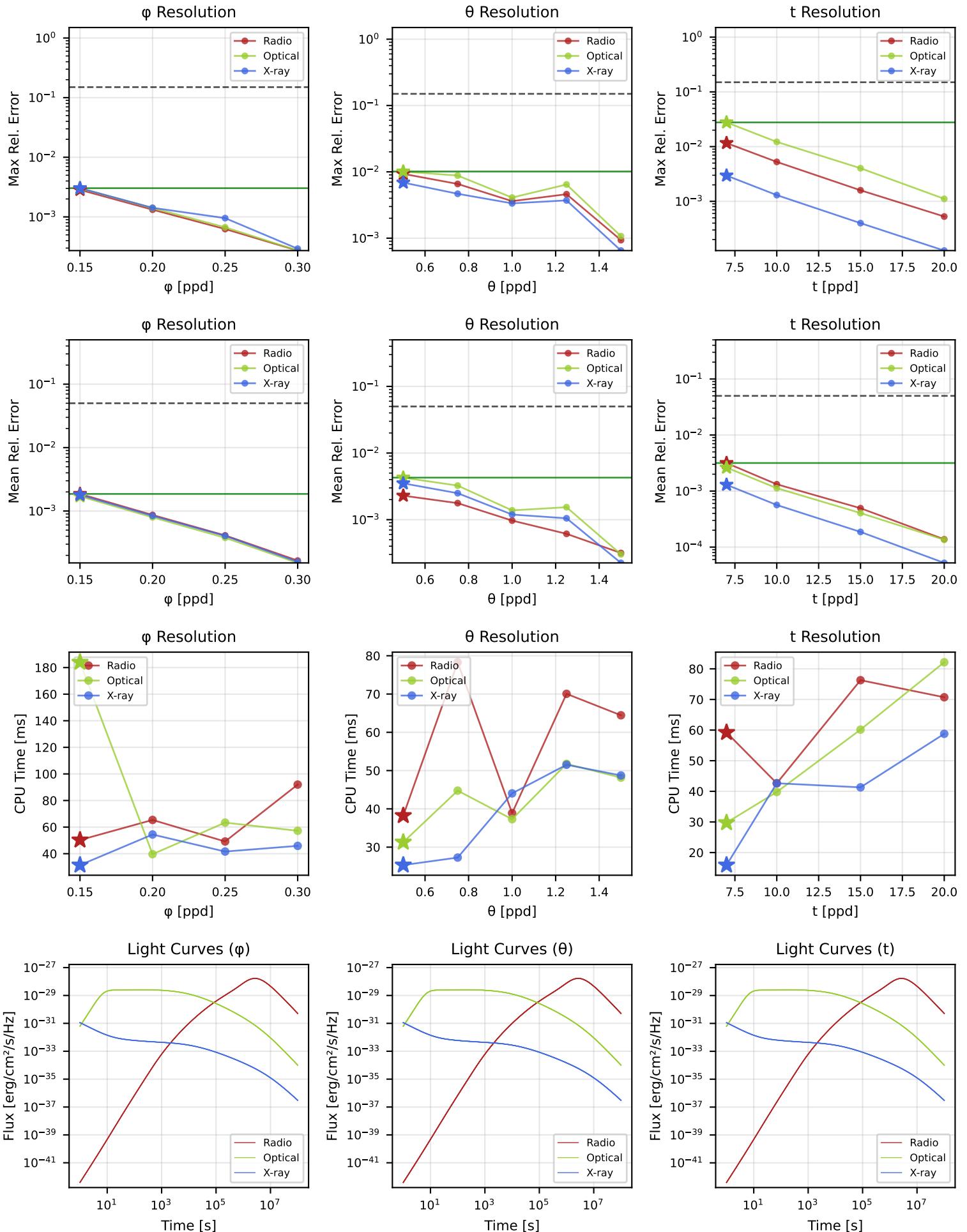
[PASS]

#74: gaussian / wind / synchrotron / $\theta_v/\theta_c=2.0$



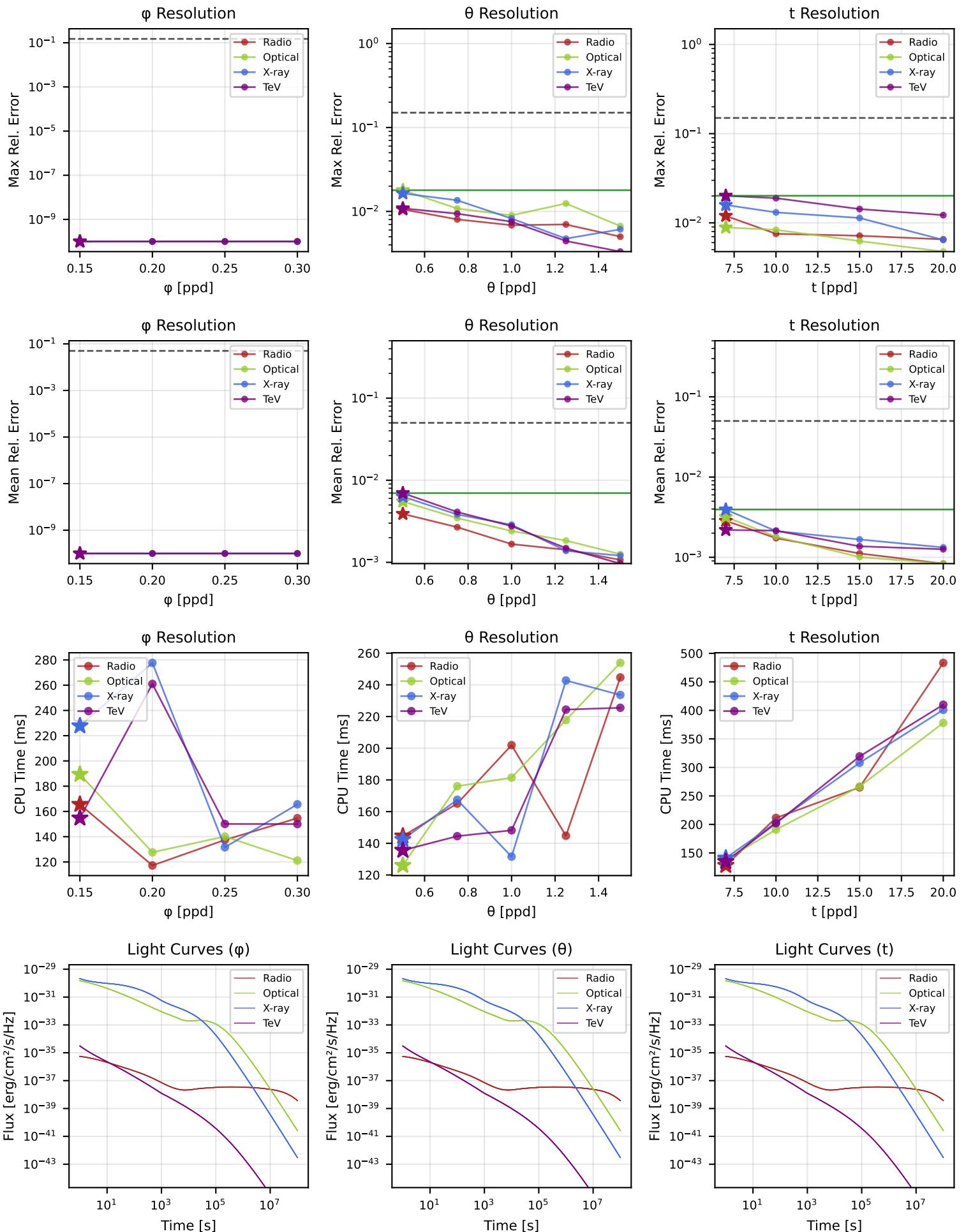
[PASS]

#75: gaussian / wind / synchrotron / $\theta_v/\theta_c=4.0$



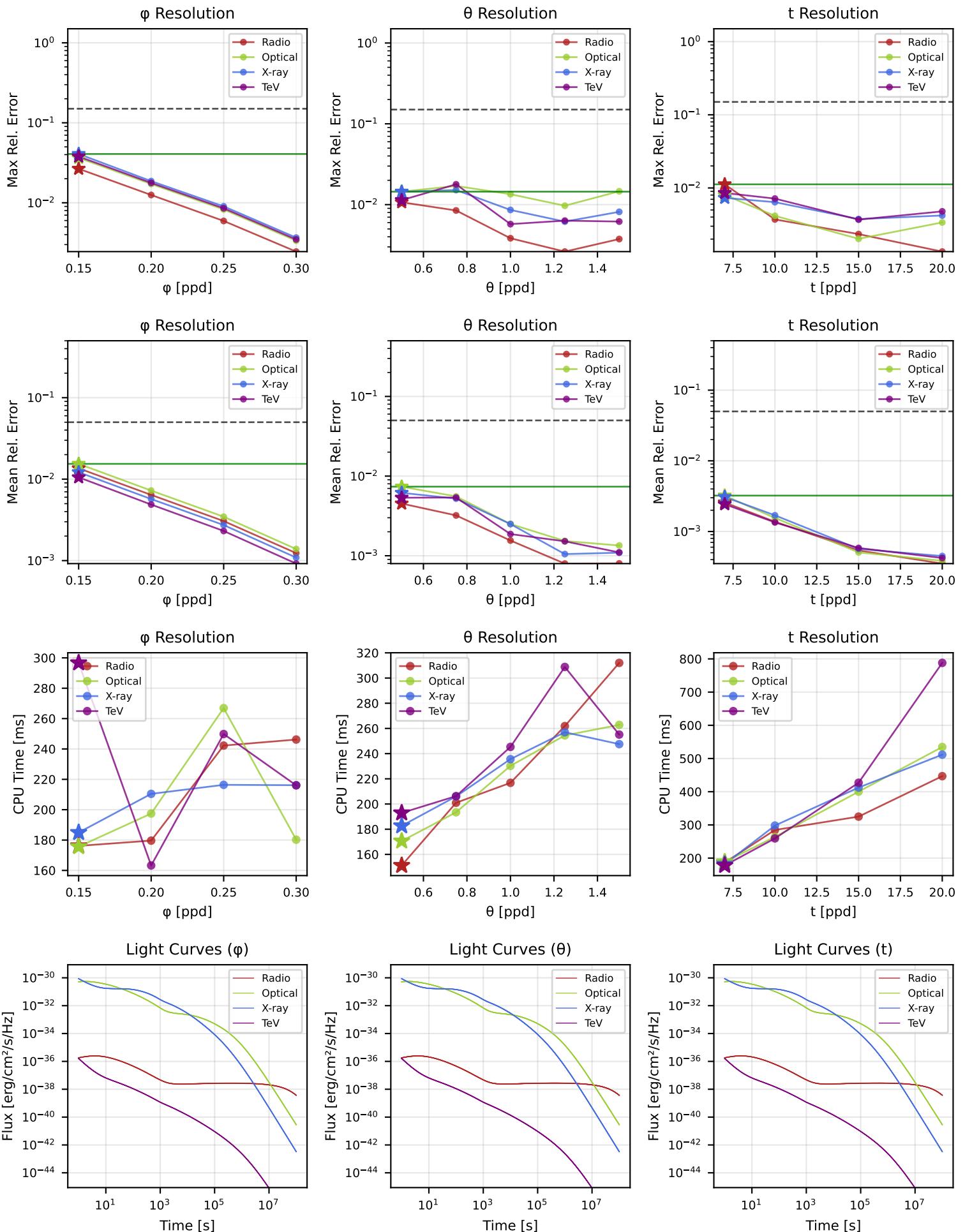
[PASS]

#76: gaussian / wind / full_ssc / $\theta_v/\theta_c=0.0$



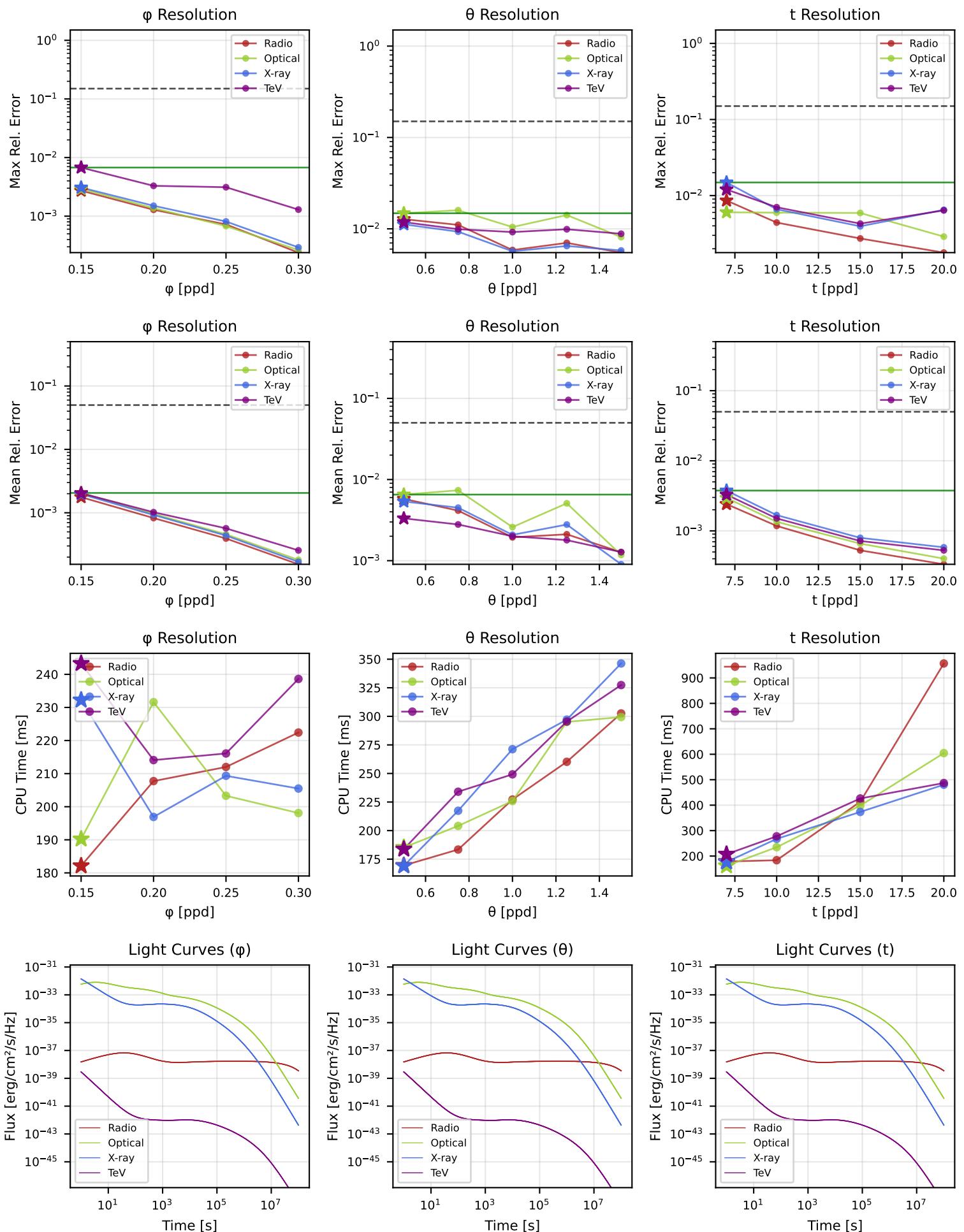
[PASS]

#77: gaussian / wind / full_ssc / $\theta_v/\theta_c=2.0$



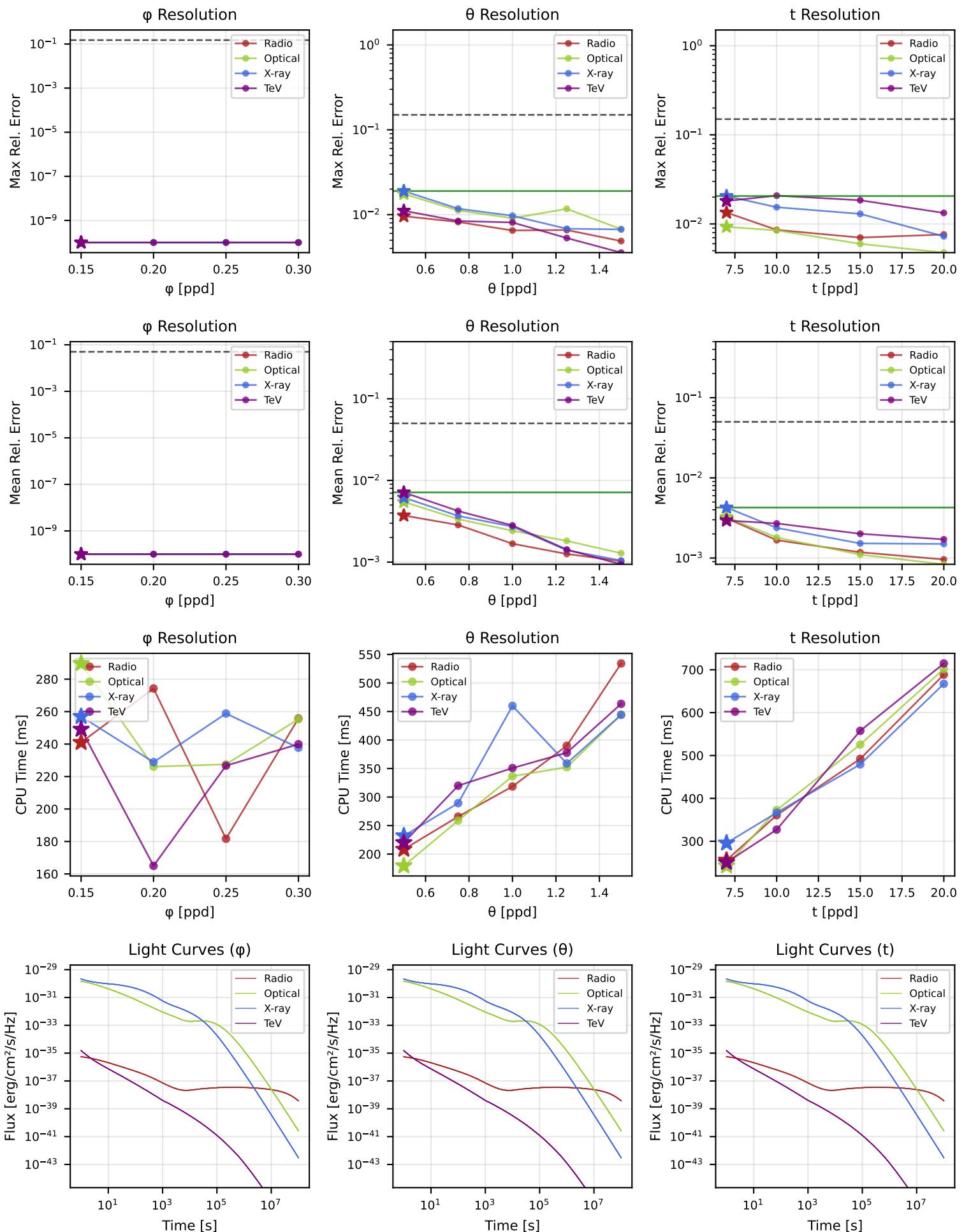
[PASS]

#78: gaussian / wind / full_ssc / $\theta_v/\theta_c=4.0$



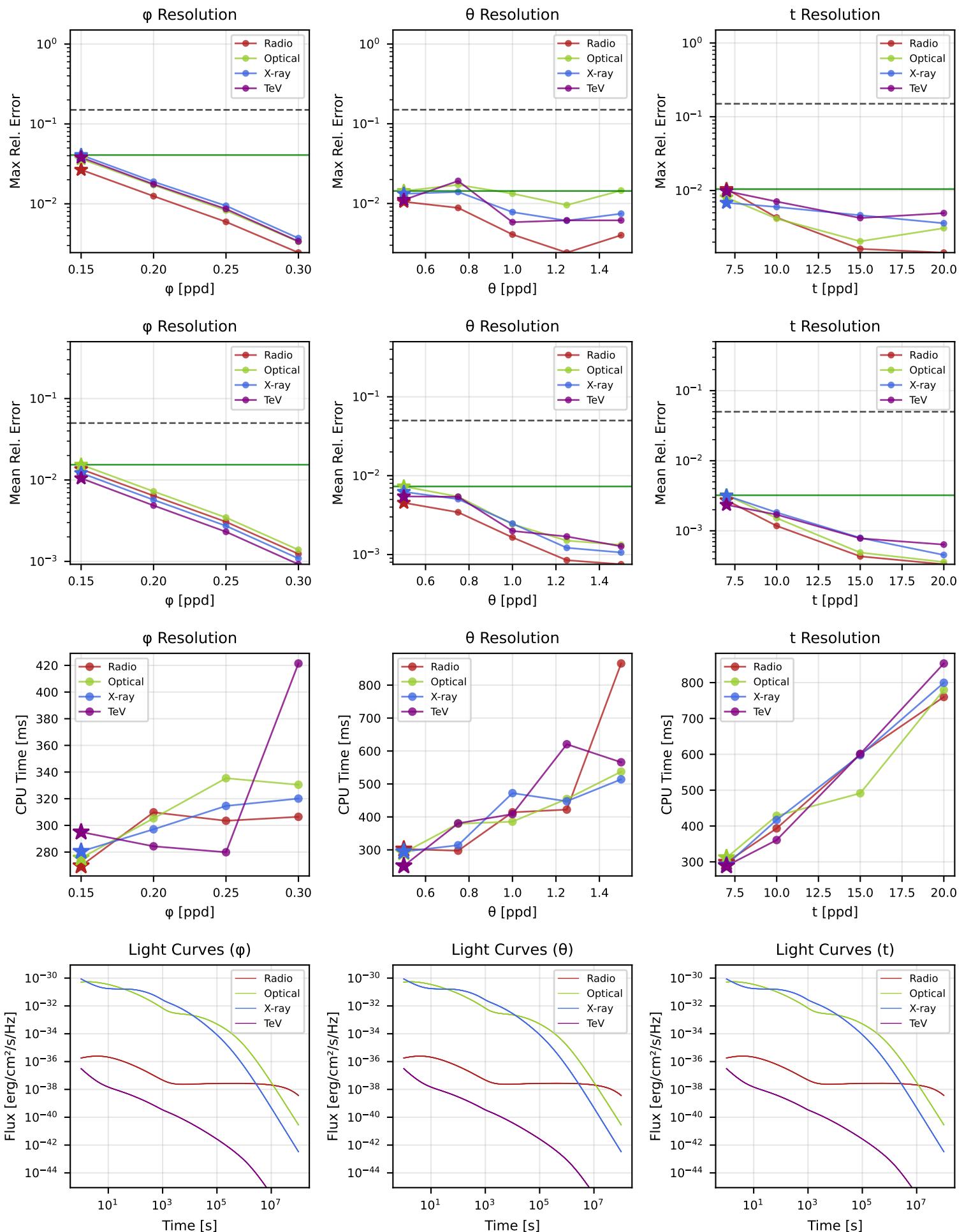
[PASS]

#79: gaussian / wind / ssc_kn / $\theta_v/\theta_c=0.0$



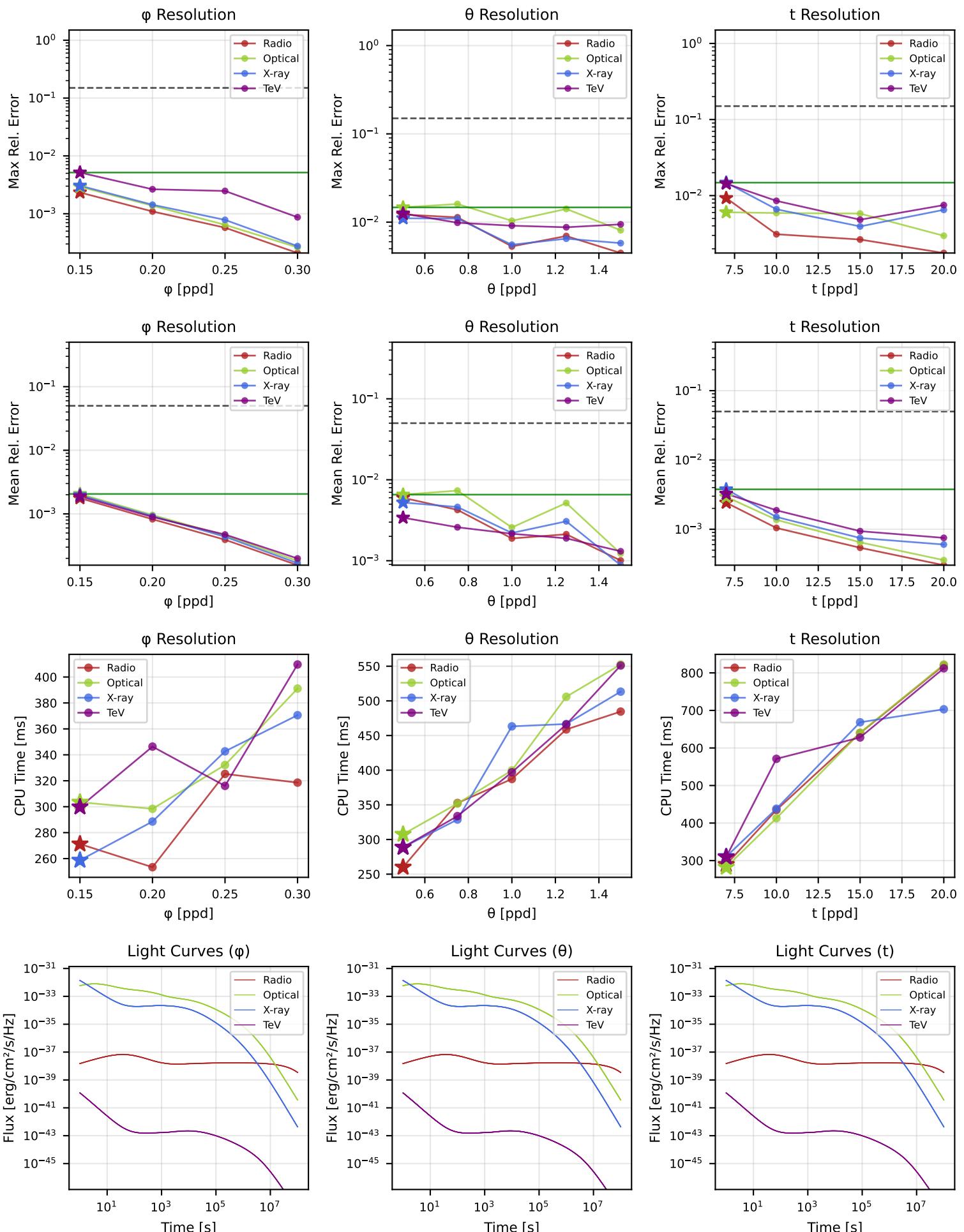
[PASS]

#80: gaussian / wind / ssc_kn / $\theta_v/\theta_c=2.0$



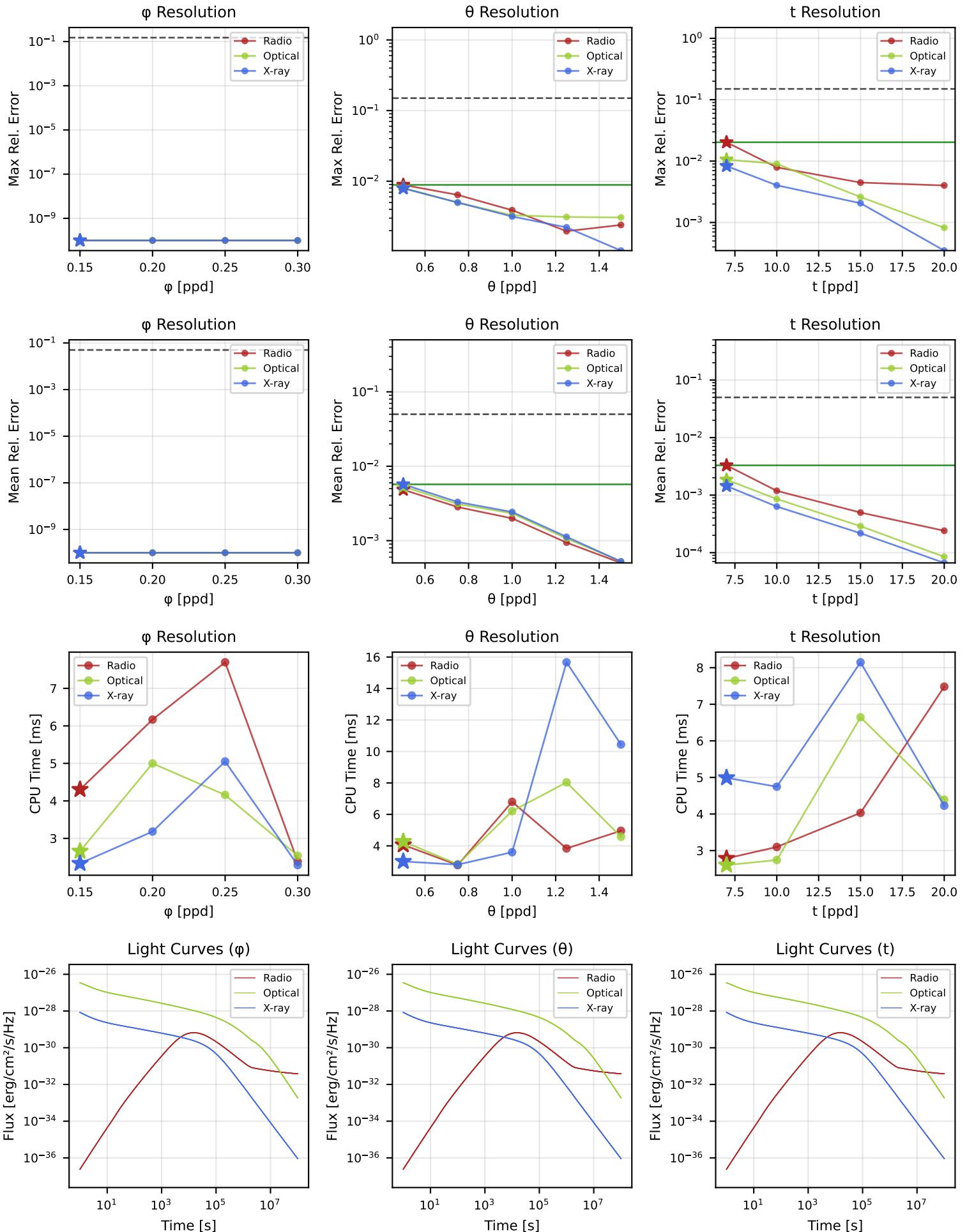
[PASS]

#81: gaussian / wind / ssc_kn / $\theta_v/\theta_c=4.0$



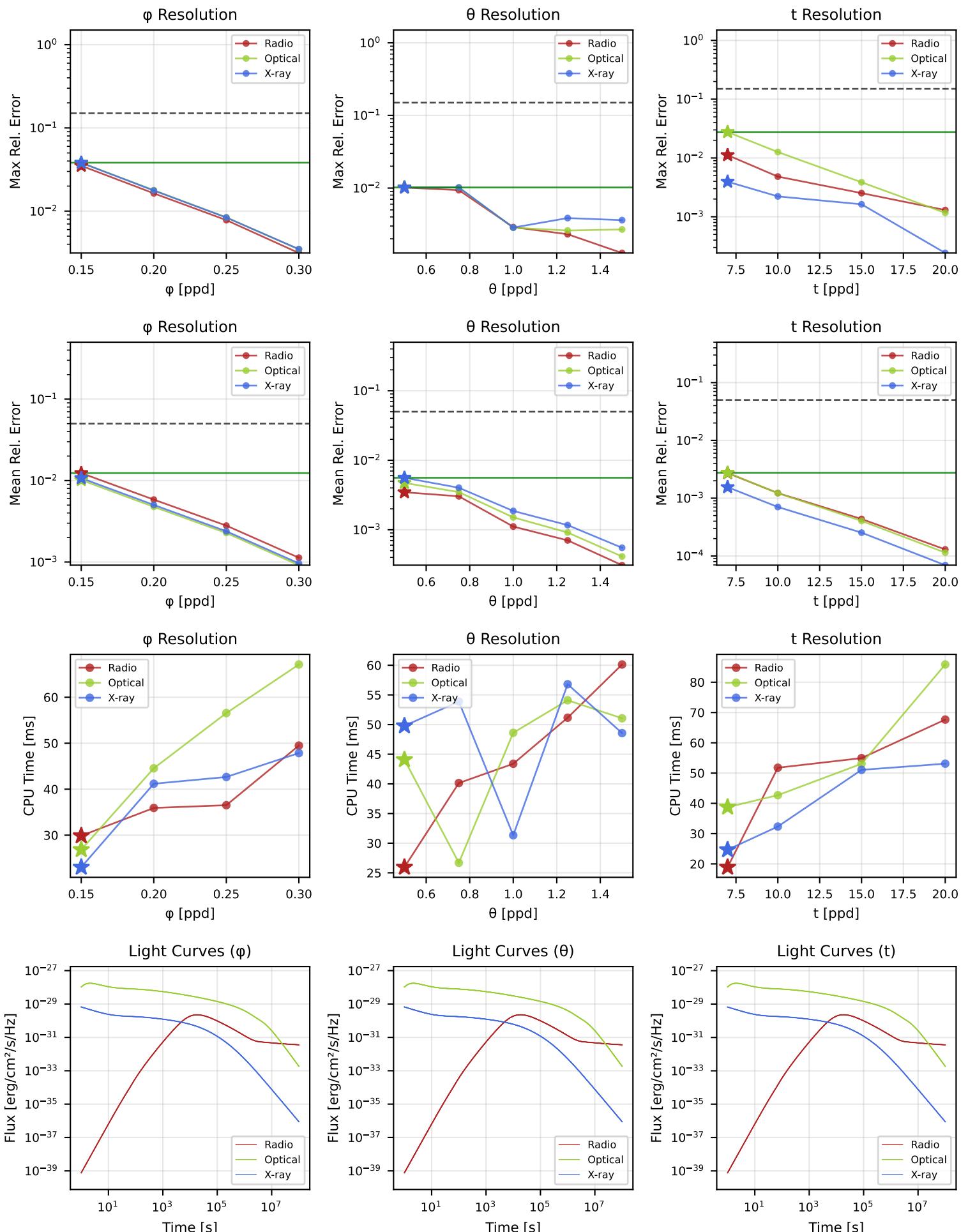
[PASS]

#82: gaussian / wind / fast_cooling / $\theta_v/\theta_c=0.0$



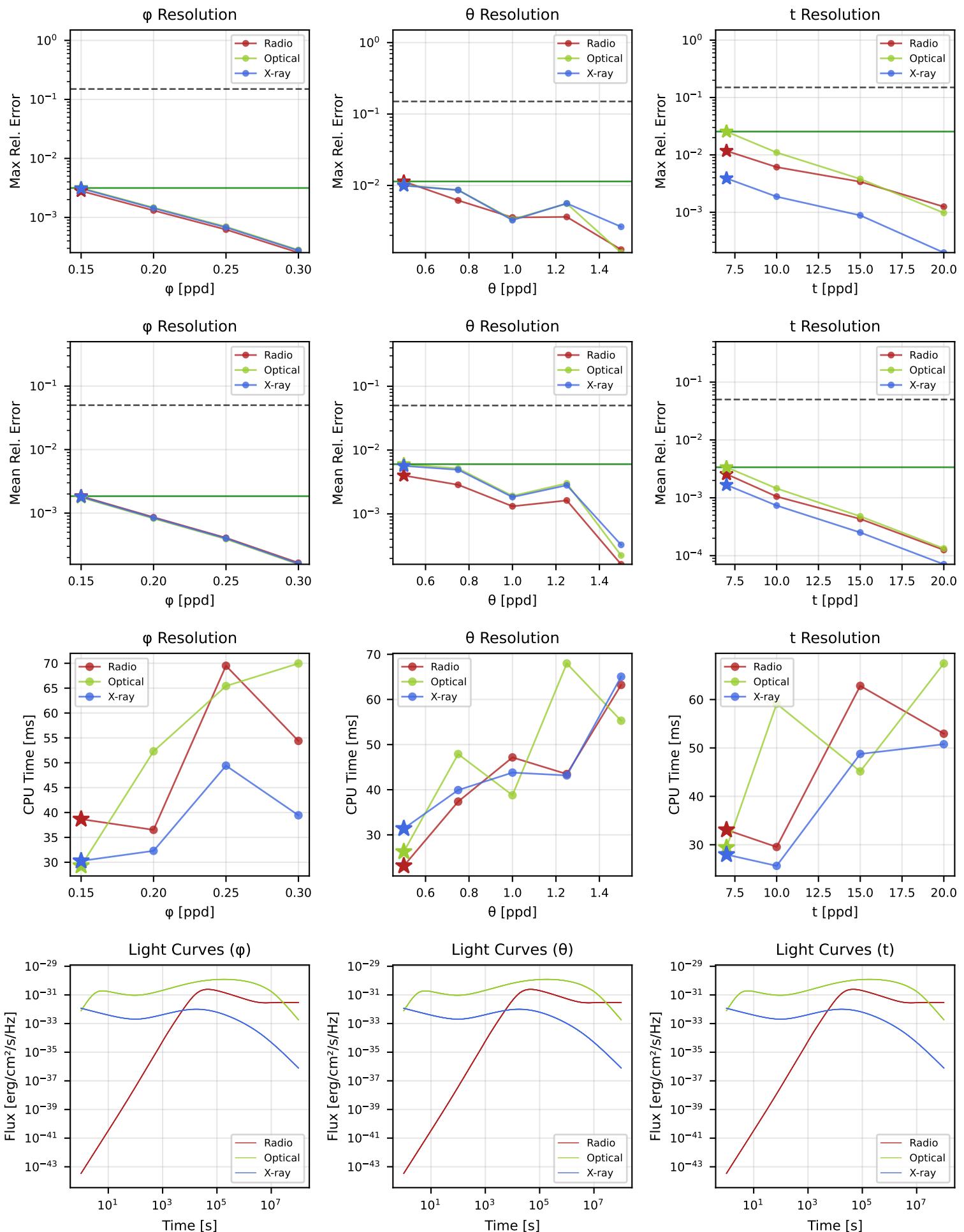
[PASS]

#83: gaussian / wind / fast_cooling / $\theta_v/\theta_c=2.0$



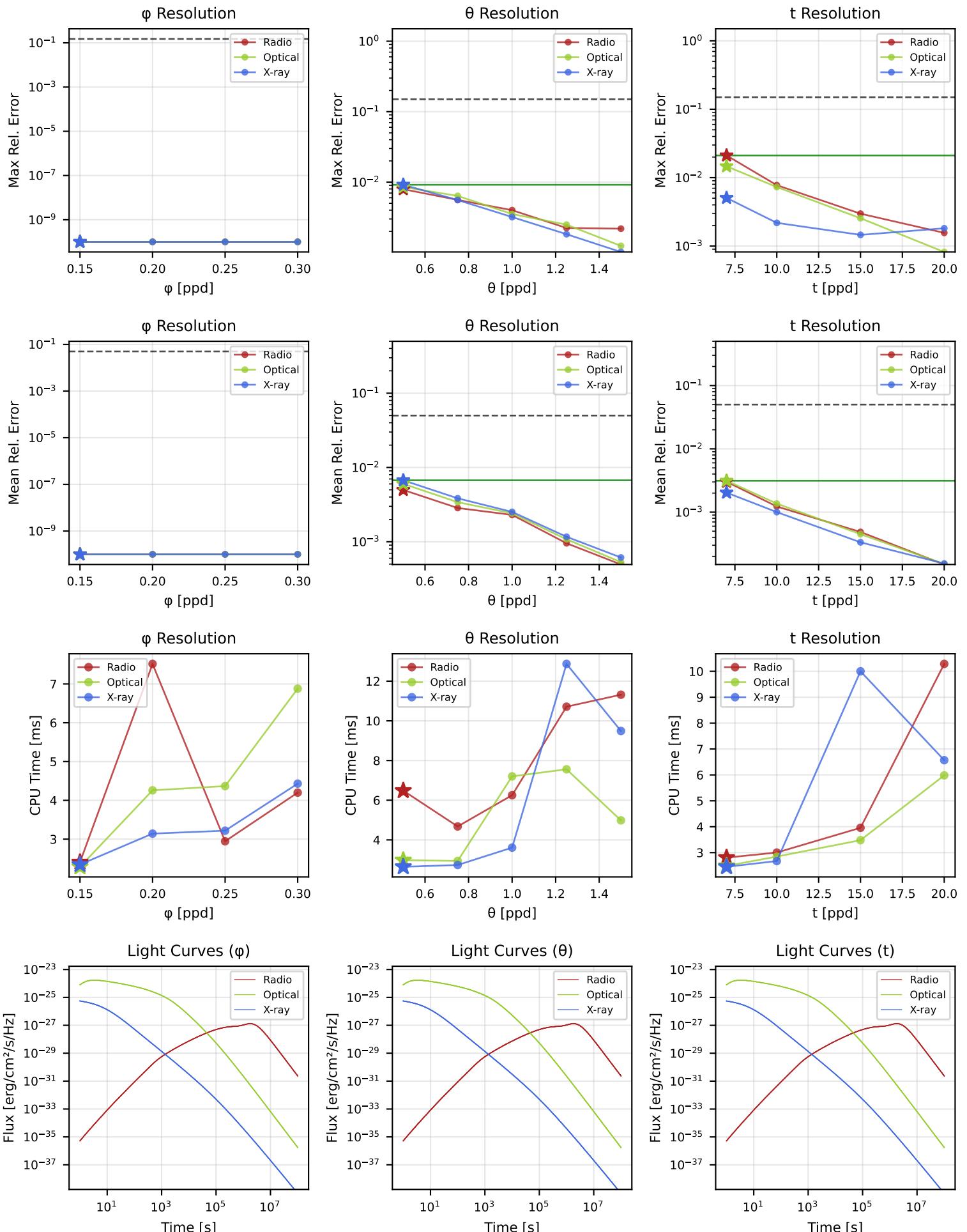
[PASS]

#84: gaussian / wind / fast_cooling / $\theta_v/\theta_c=4.0$



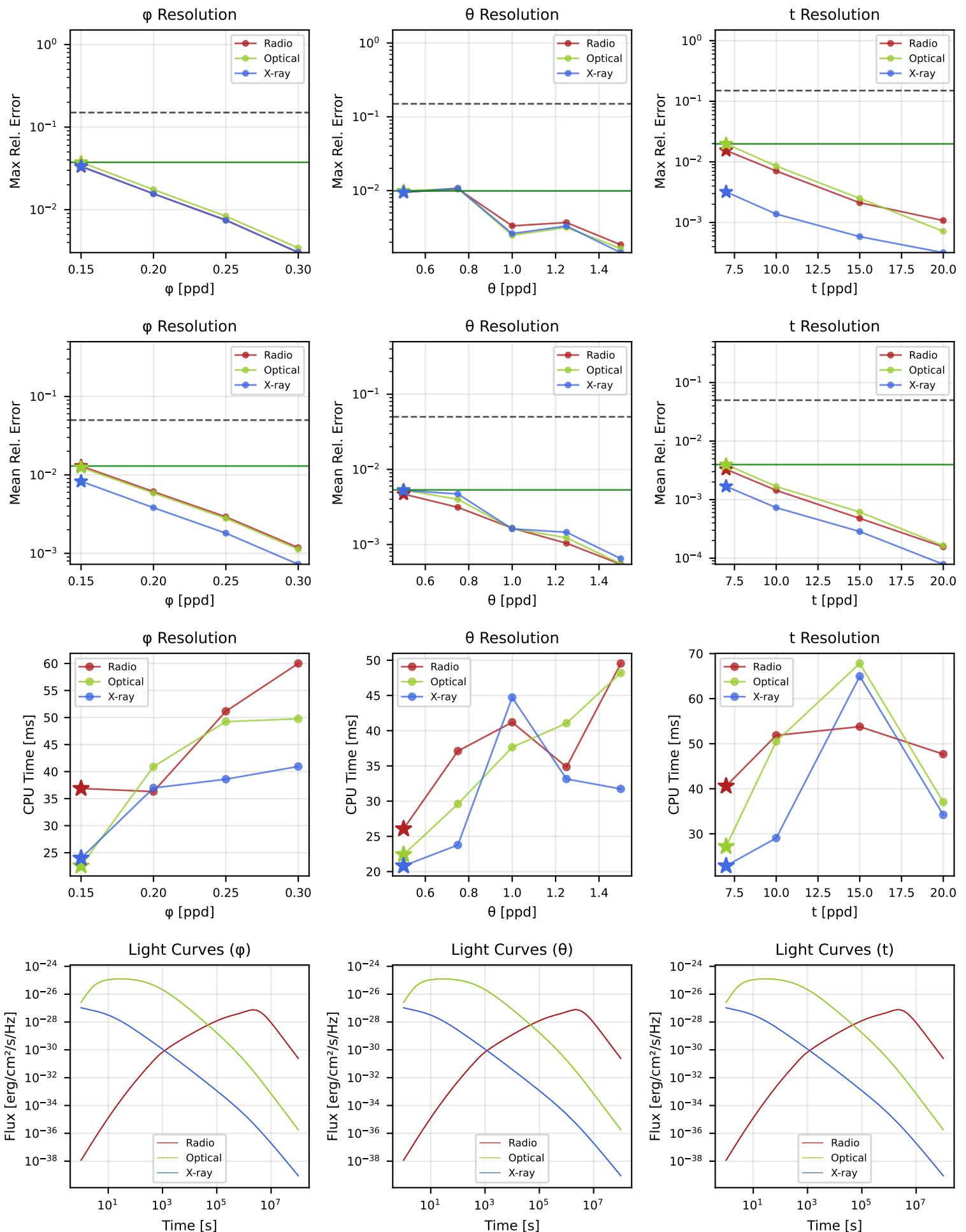
[PASS]

#85: gaussian / wind / steep_spectrum / $\theta_v/\theta_c=0.0$



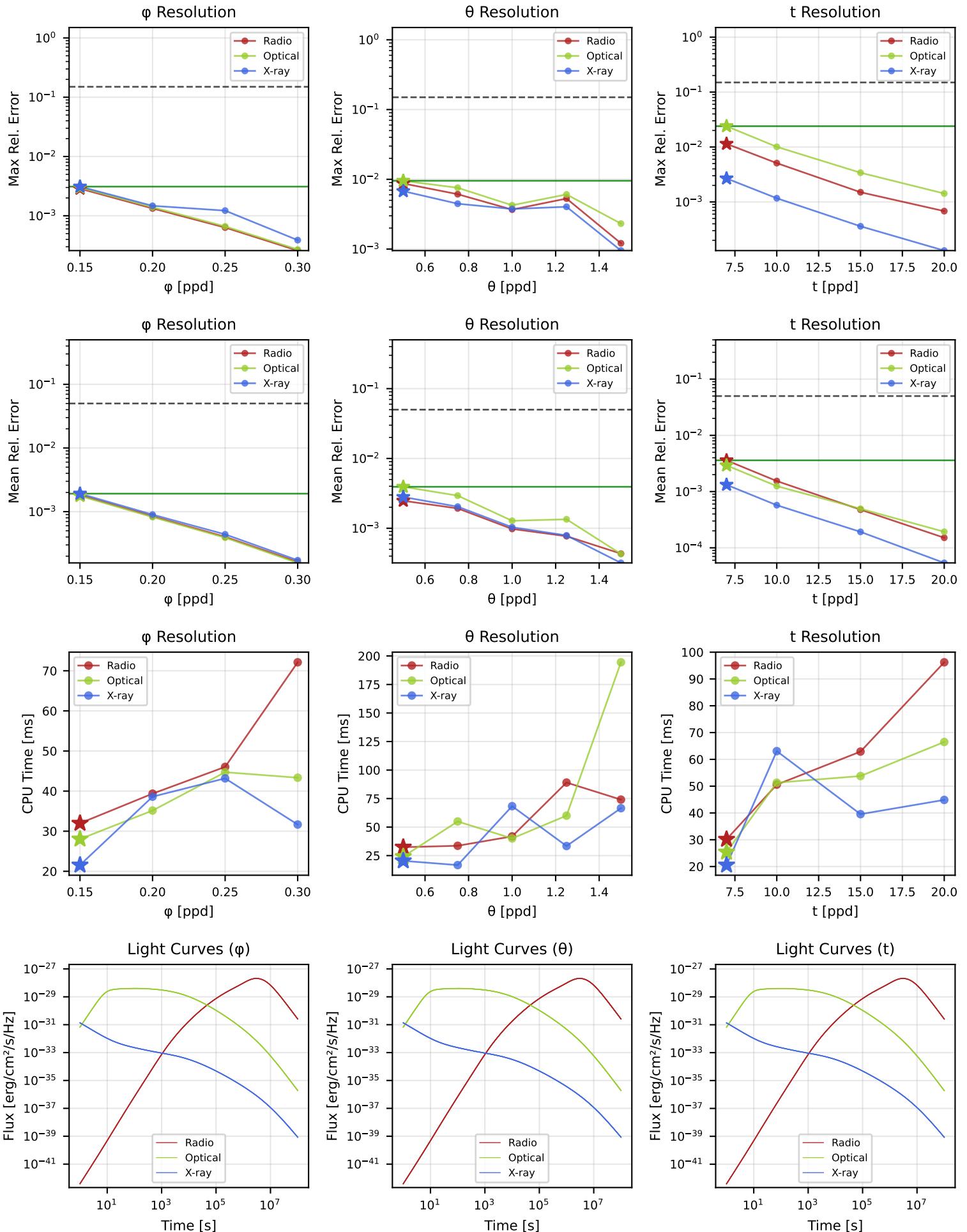
[PASS]

#86: gaussian / wind / steep_spectrum / $\theta_v/\theta_c=2.0$



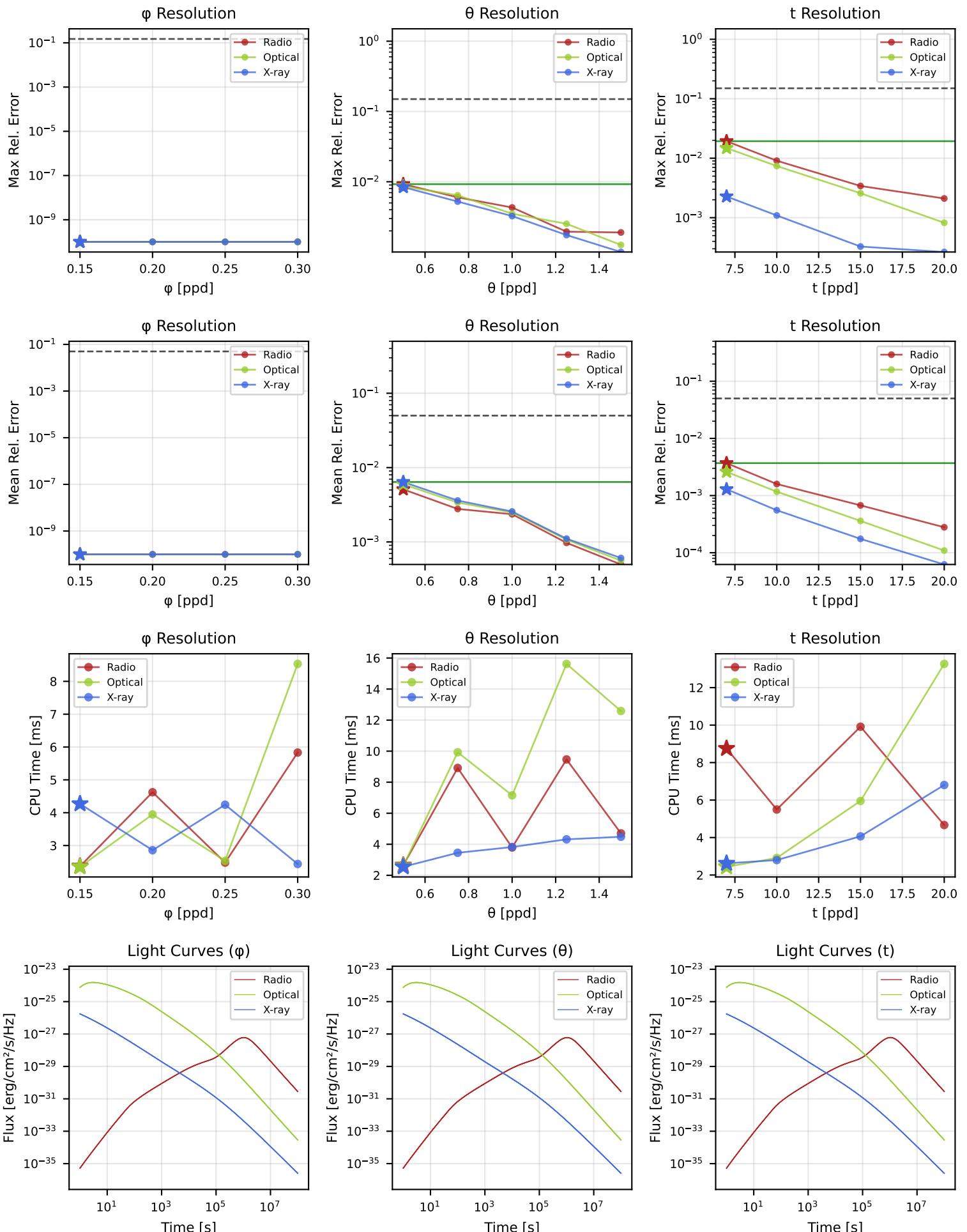
[PASS]

#87: gaussian / wind / steep_spectrum / $\theta_v/\theta_c=4.0$



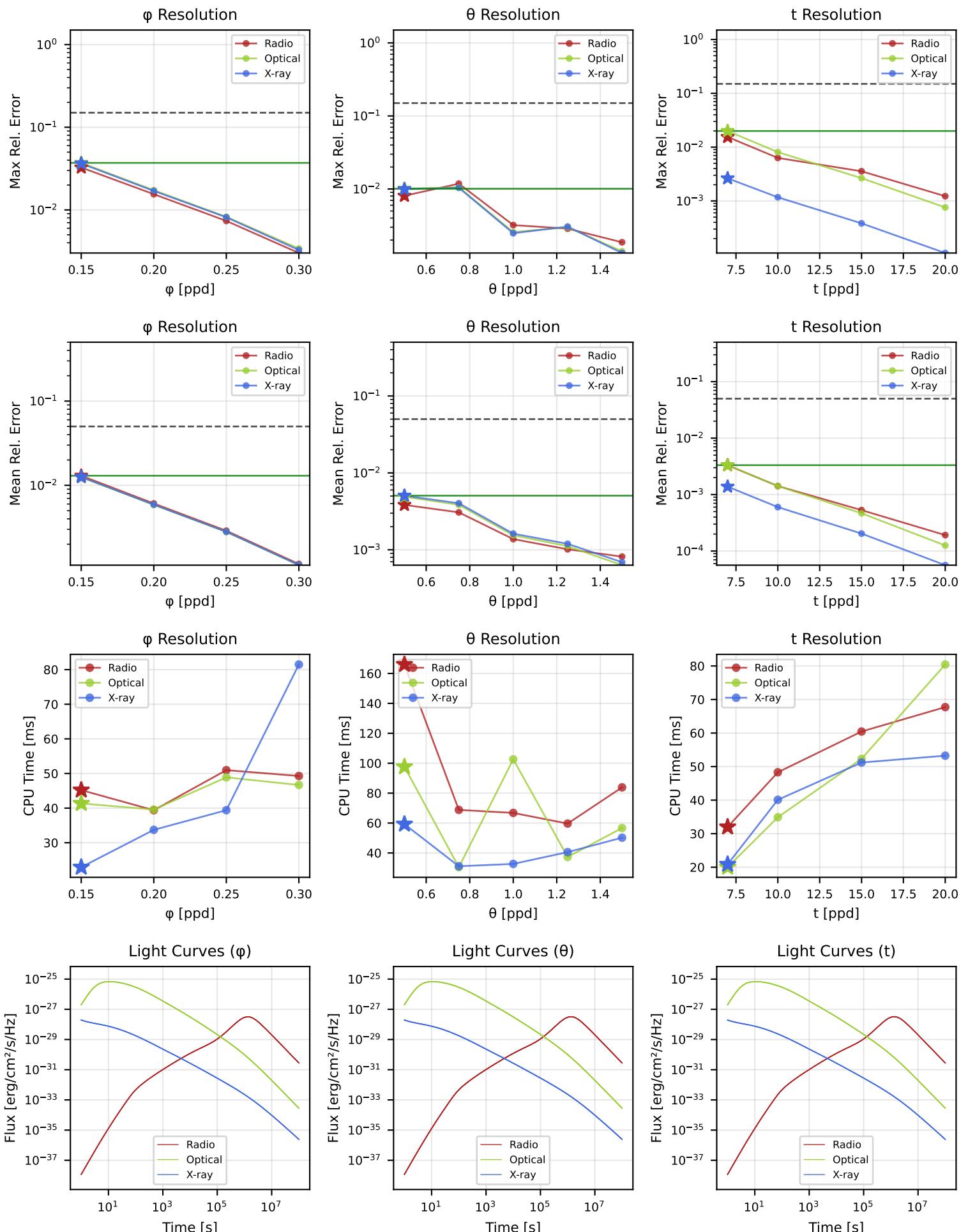
[PASS]

#88: gaussian / wind / flat_spectrum / $\theta_v/\theta_c=0.0$



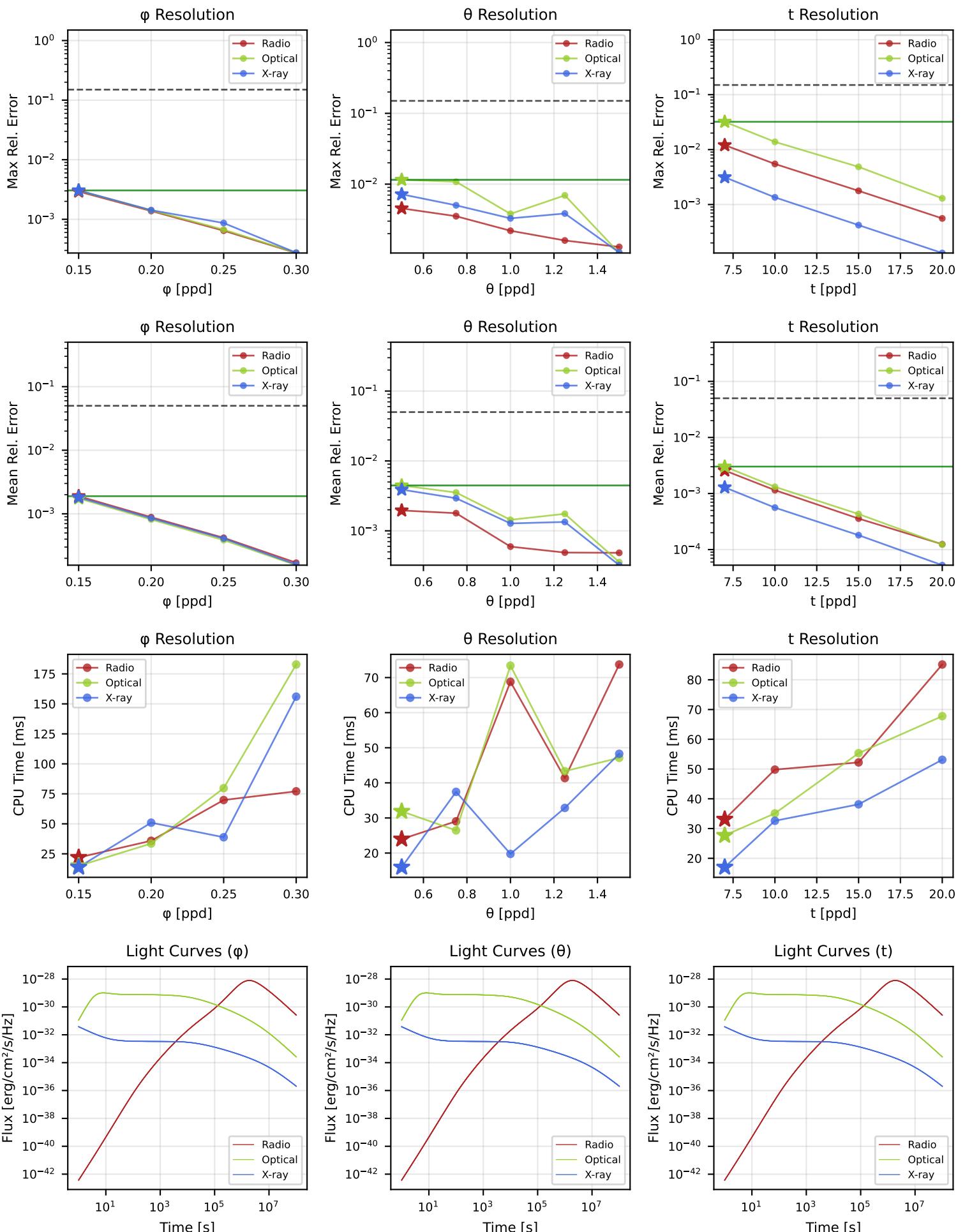
[PASS]

#89: gaussian / wind / flat_spectrum / $\theta_v/\theta_c=2.0$



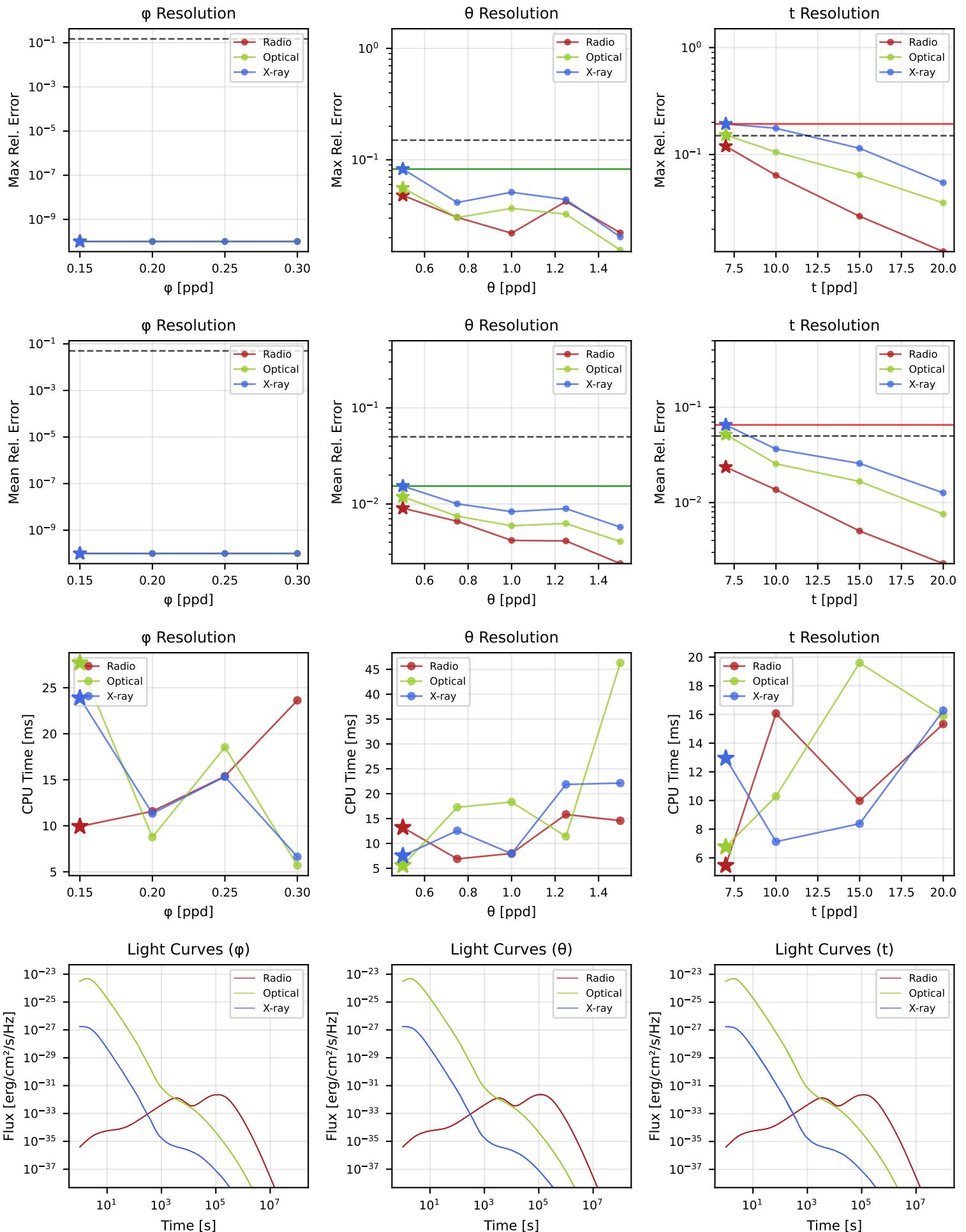
[PASS]

#90: gaussian / wind / flat_spectrum / $\theta_v/\theta_c=4.0$



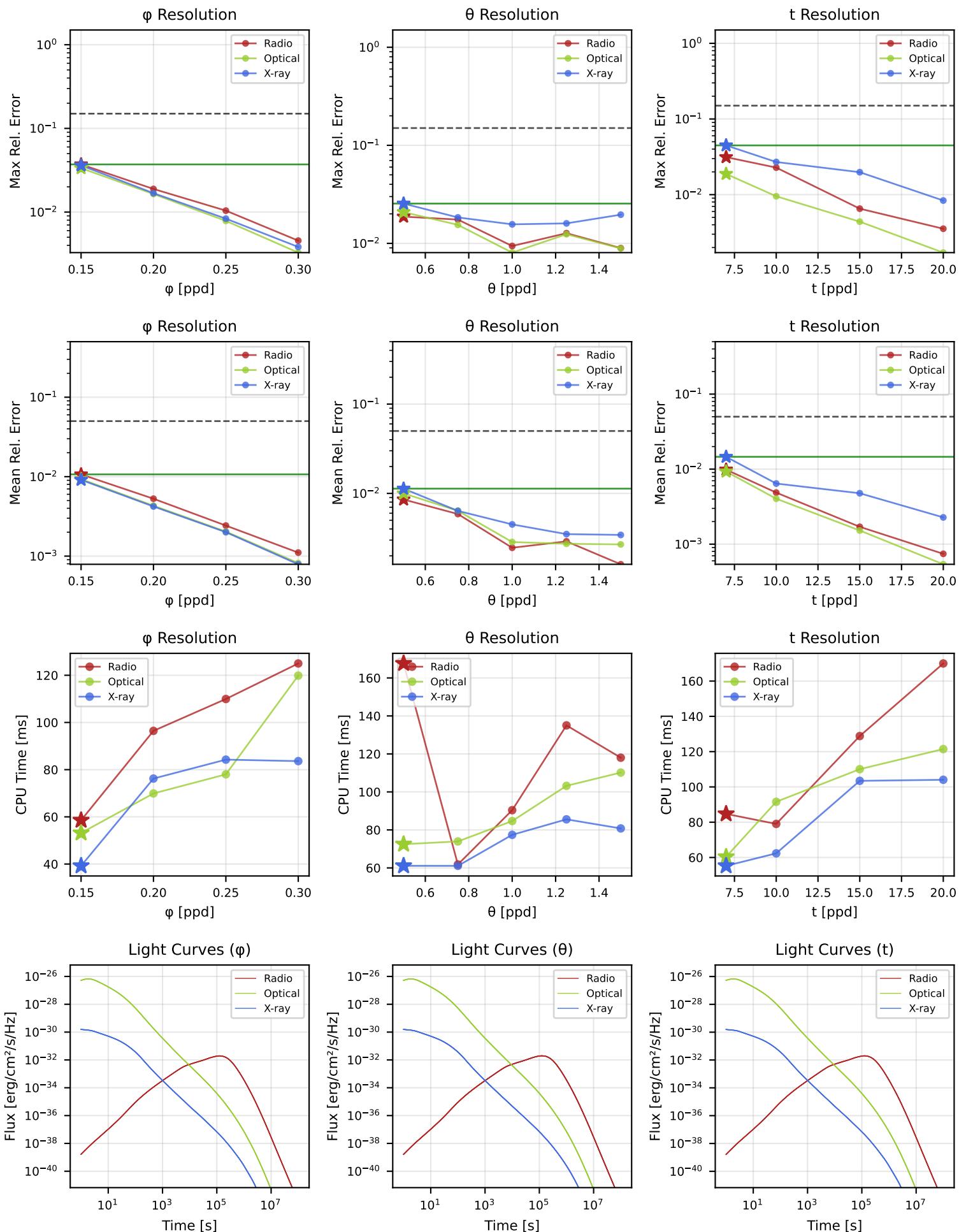
[FAIL]

#91: gaussian / wind / rvs_sync_thin / $\theta_v/\theta_c=0.0$



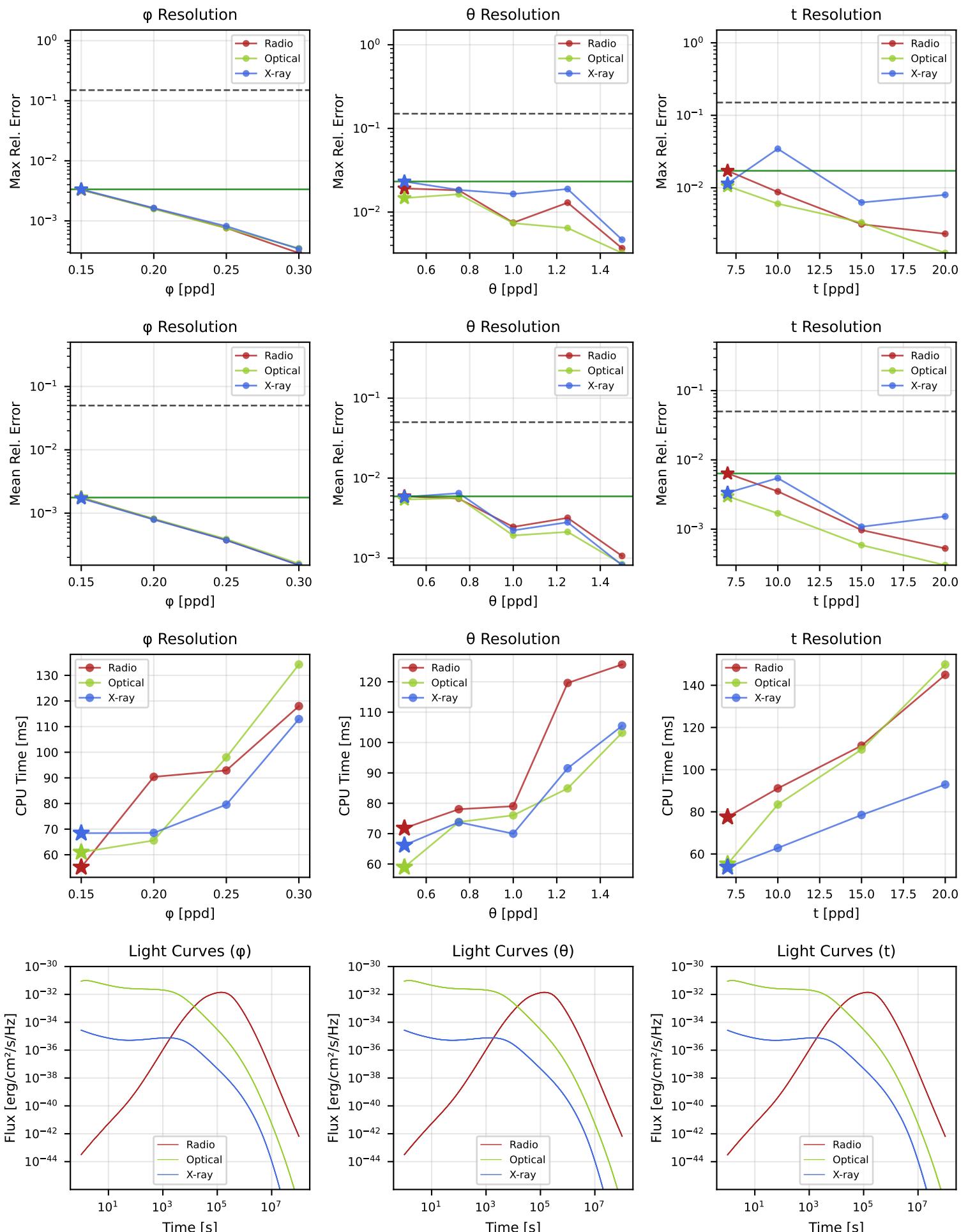
[PASS]

#92: gaussian / wind / rvs_sync_thin / $\theta_v/\theta_c=2.0$



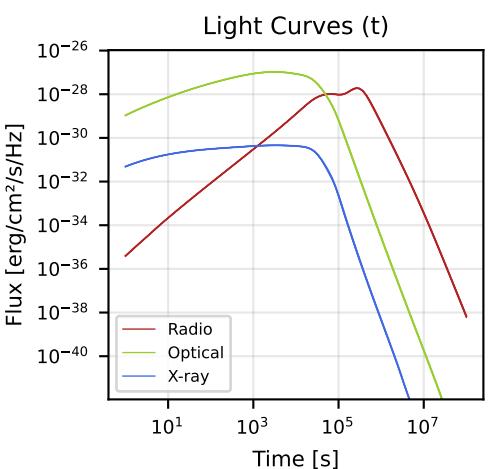
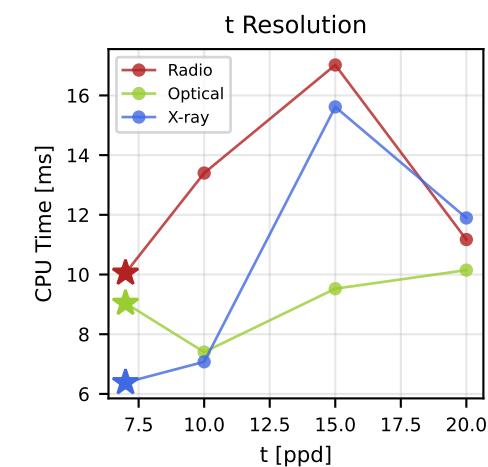
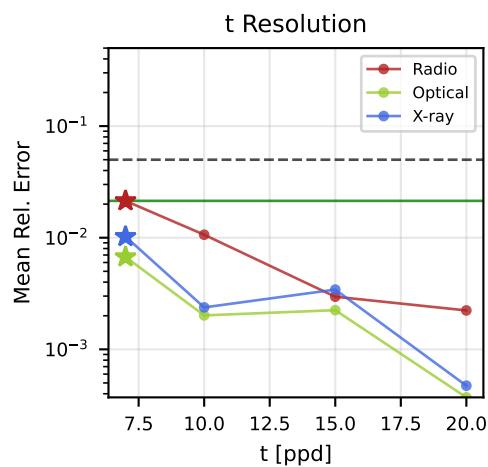
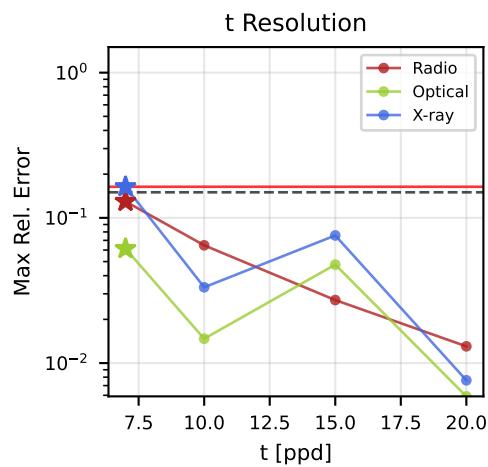
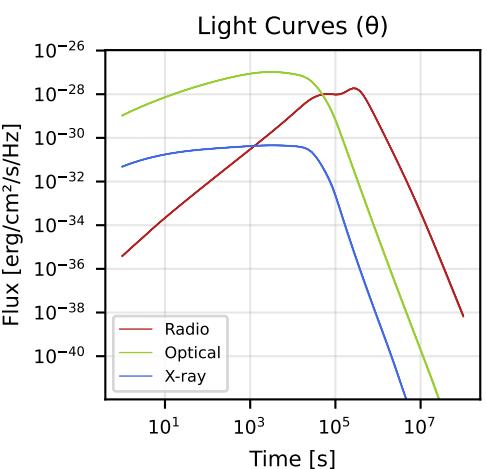
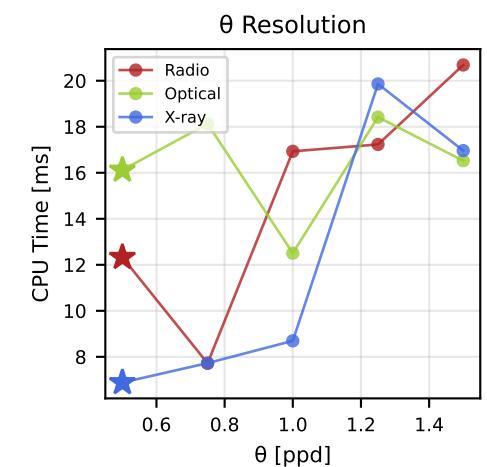
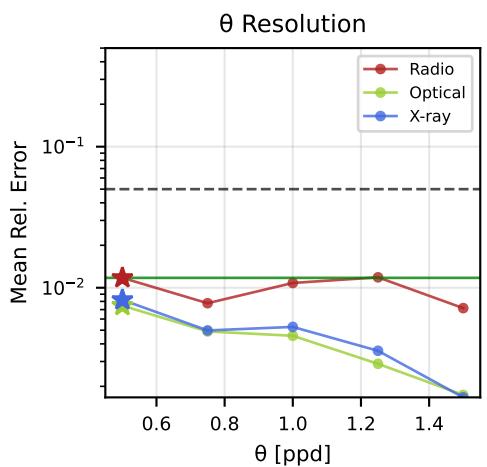
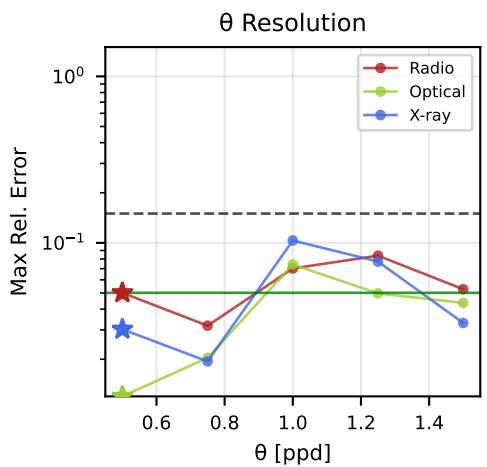
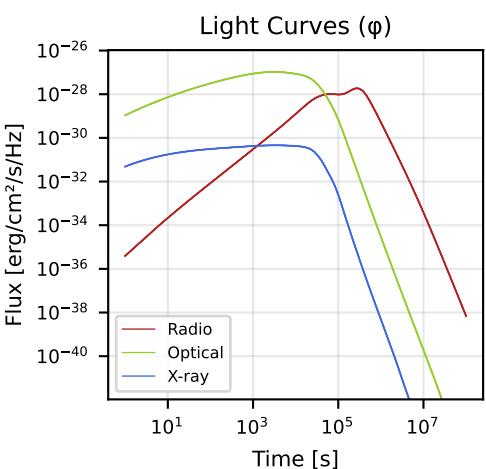
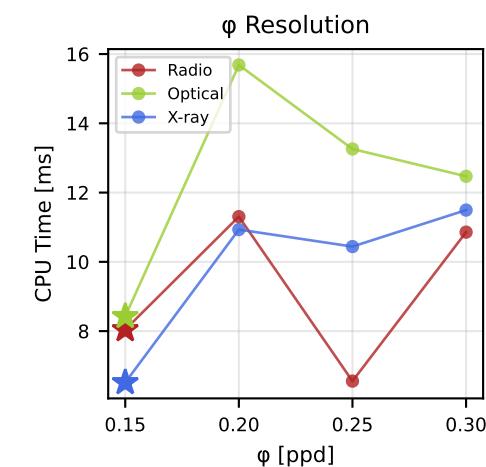
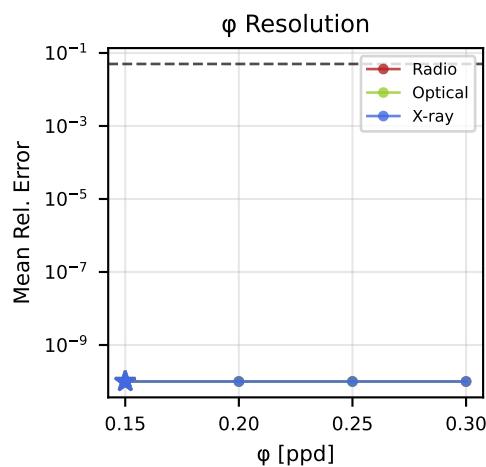
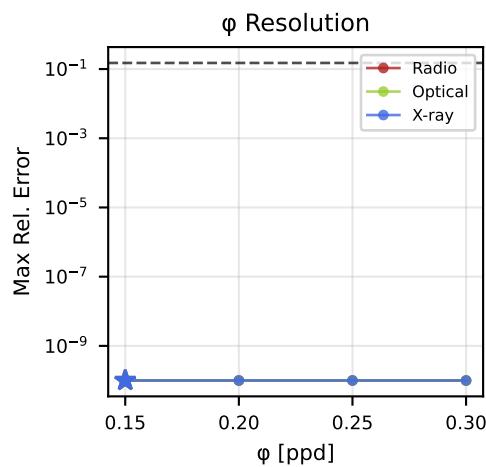
[PASS]

#93: gaussian / wind / rvs_sync_thin / $\theta_v/\theta_c=4.0$



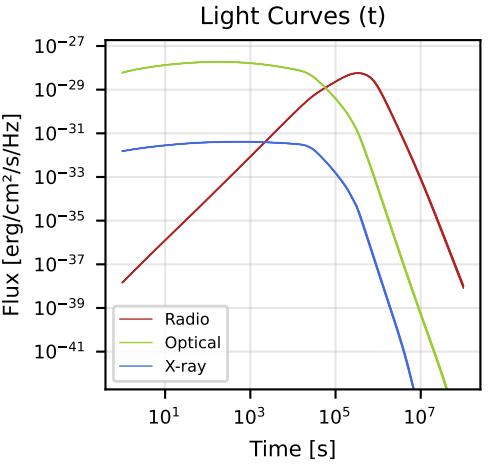
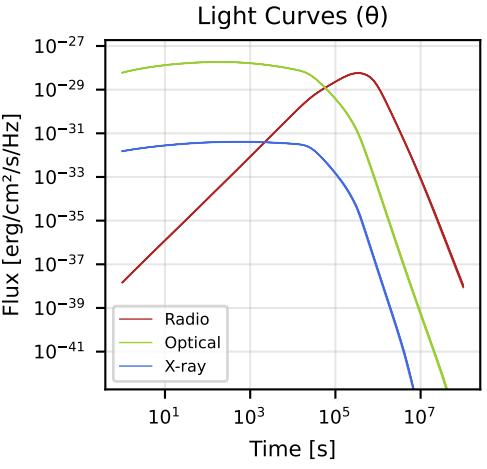
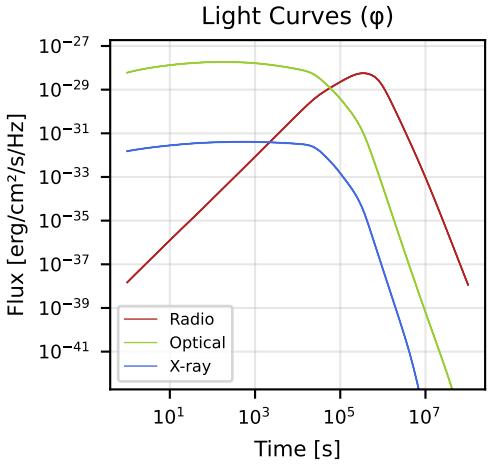
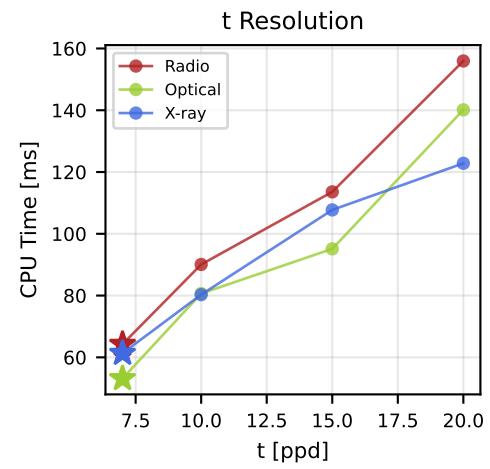
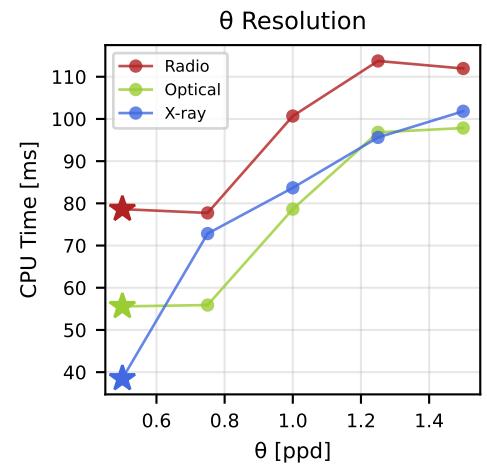
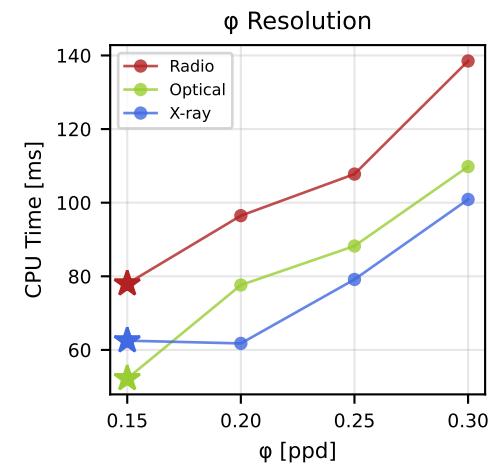
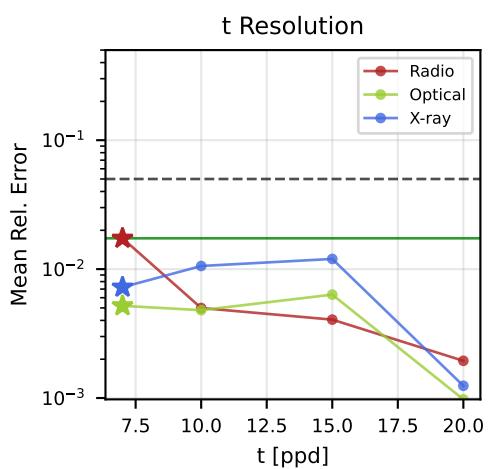
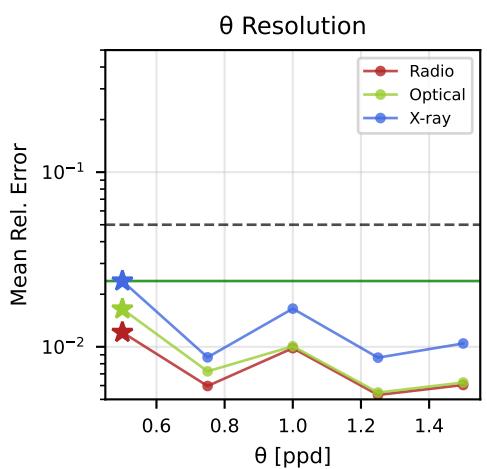
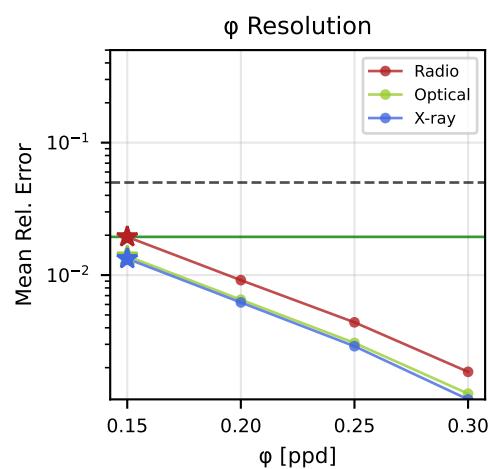
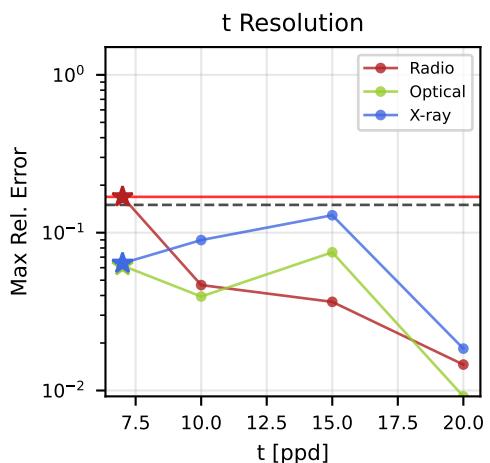
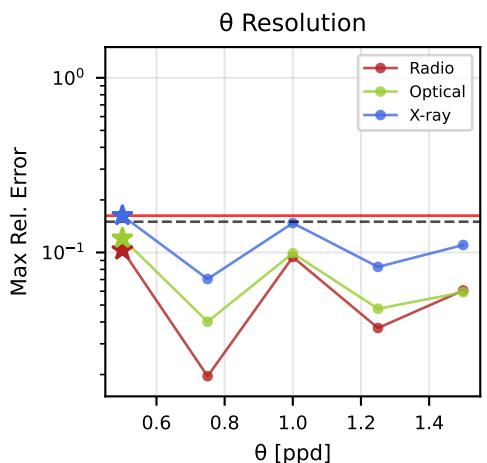
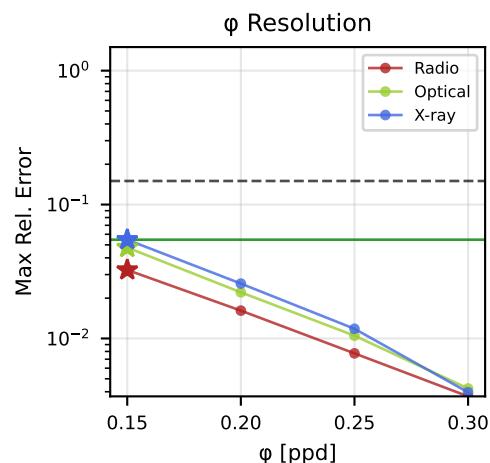
[ACCEPTABLE]

#94: gaussian / wind / rvs_sync_thick / $\theta_v/\theta_c=0.0$



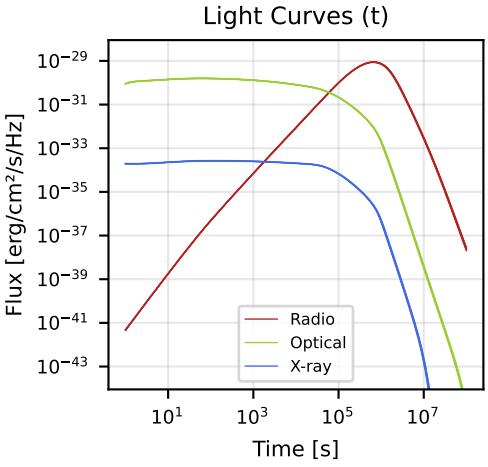
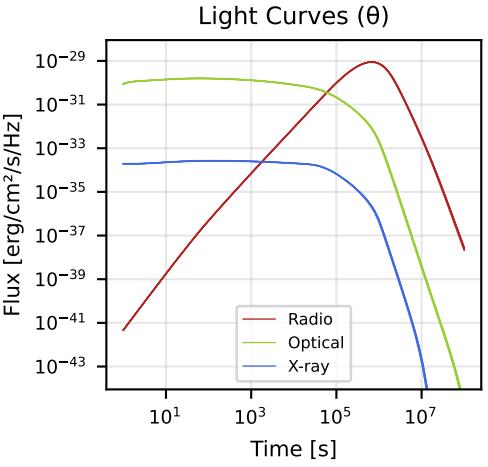
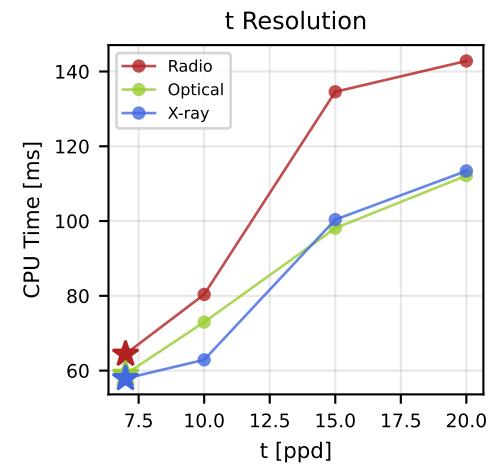
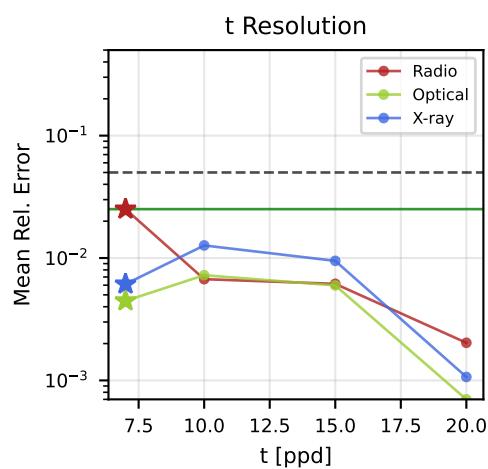
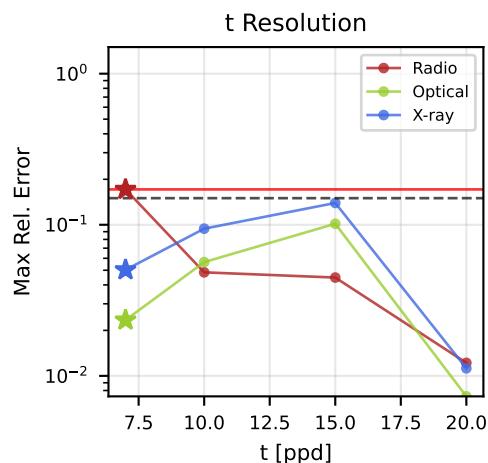
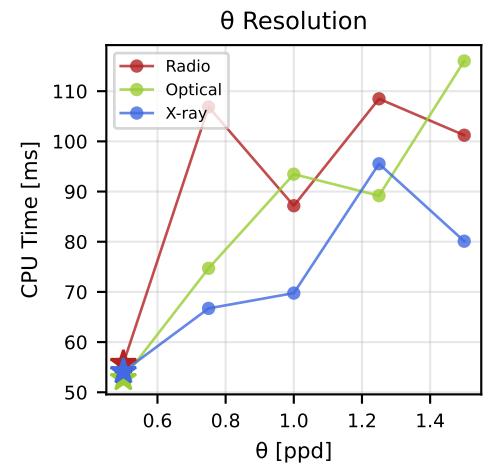
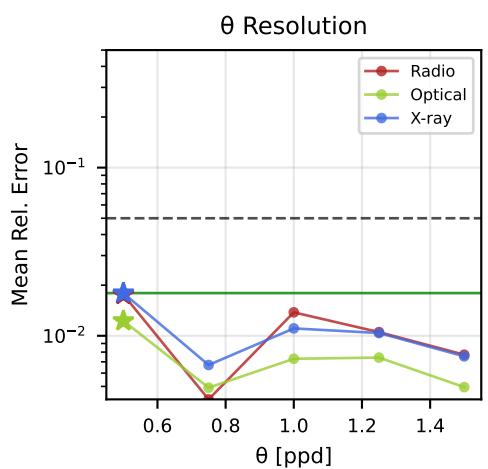
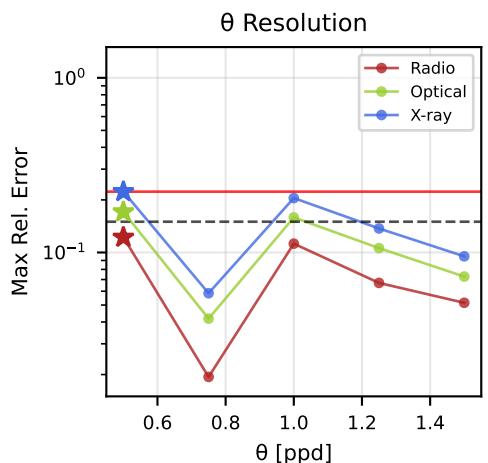
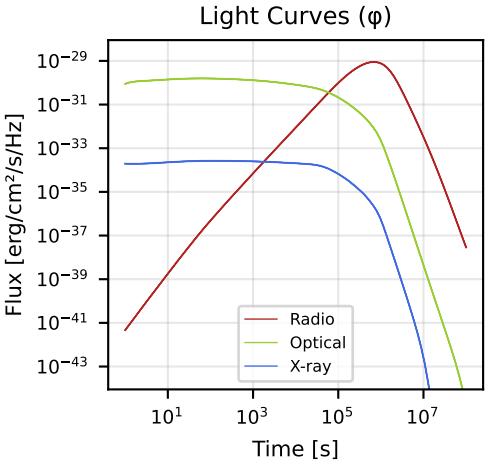
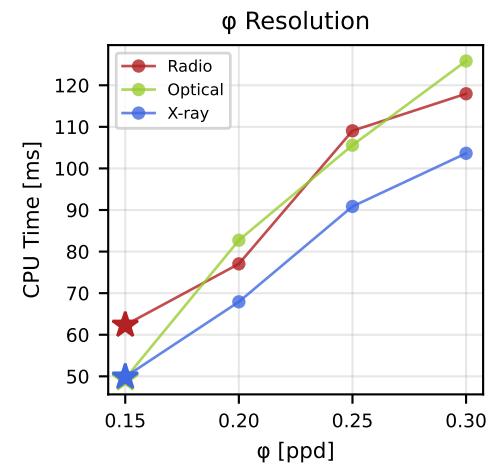
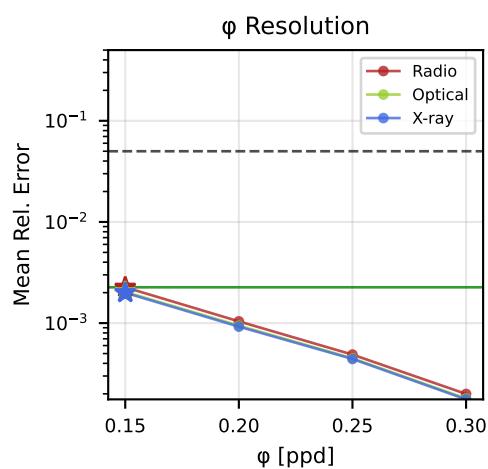
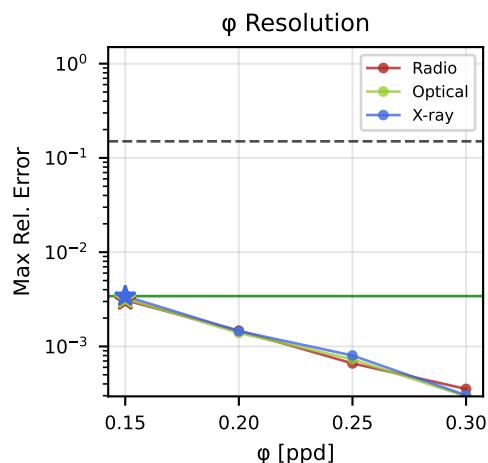
[ACCEPTABLE]

#95: gaussian / wind / rvs_sync_thick / $\theta_v/\theta_c=2.0$



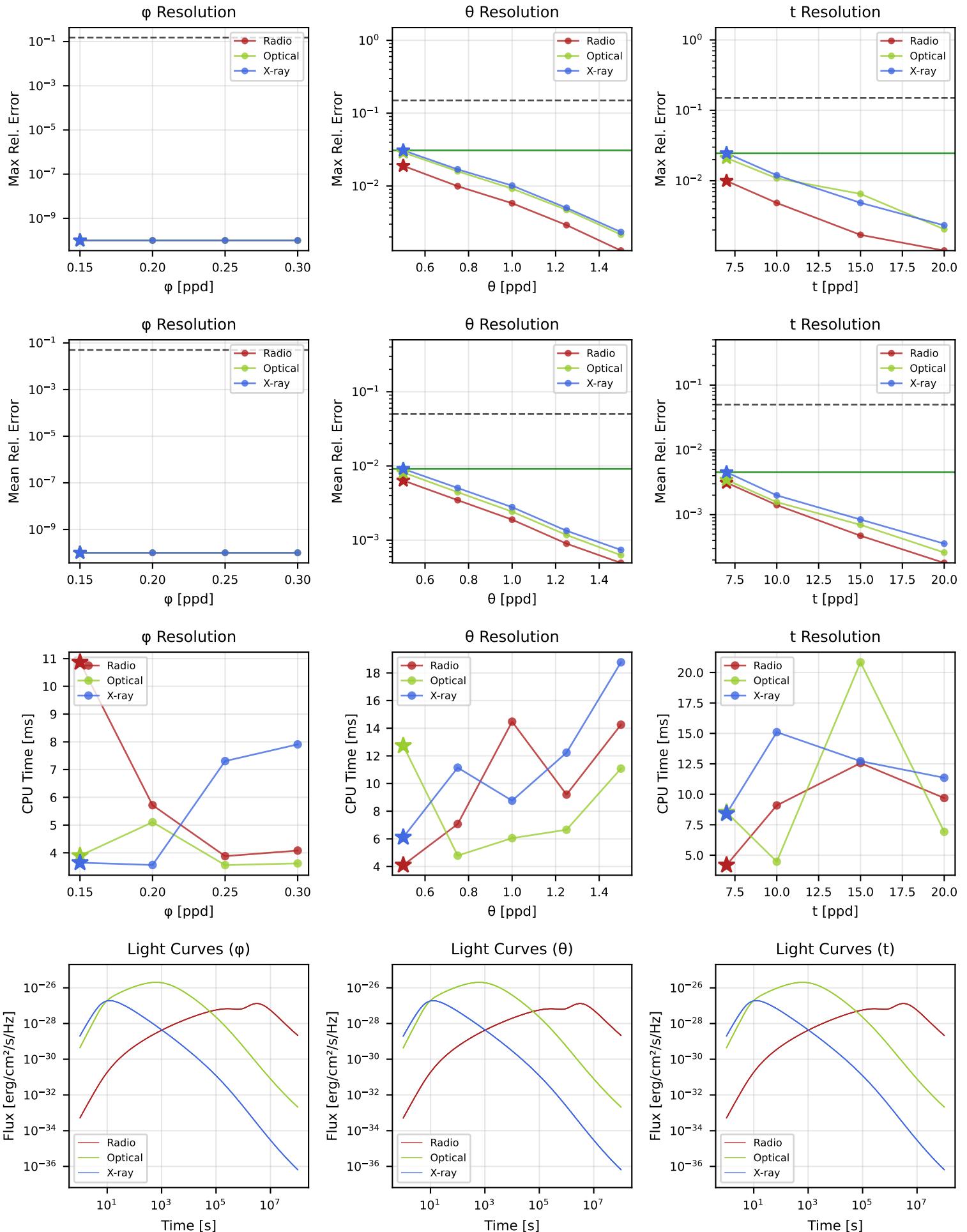
[ACCEPTABLE]

#96: gaussian / wind / rvs_sync_thick / $\theta_v/\theta_c=4.0$



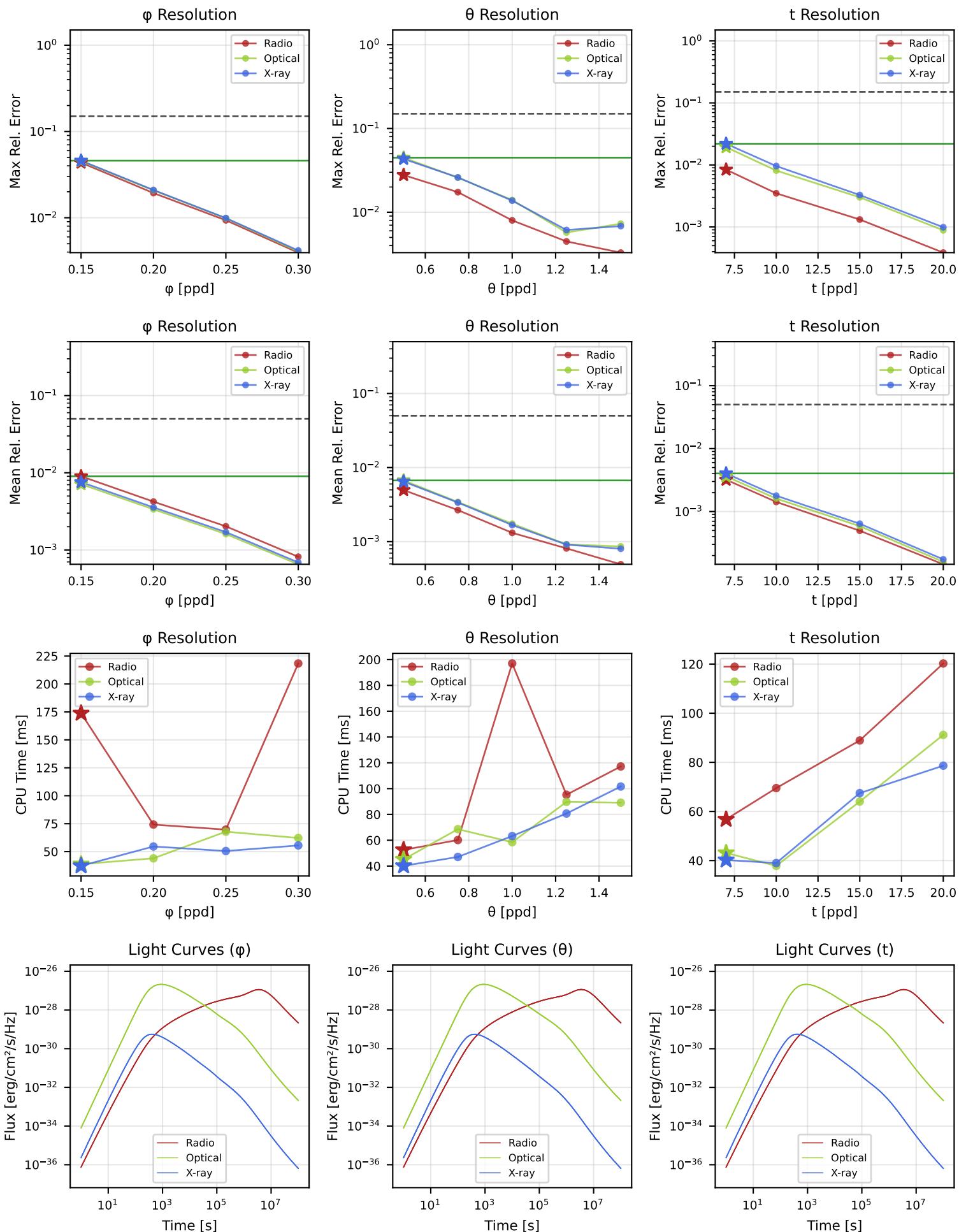
[PASS]

#97: powerlaw / ISM / synchrotron / $\theta_v/\theta_c=0.0$



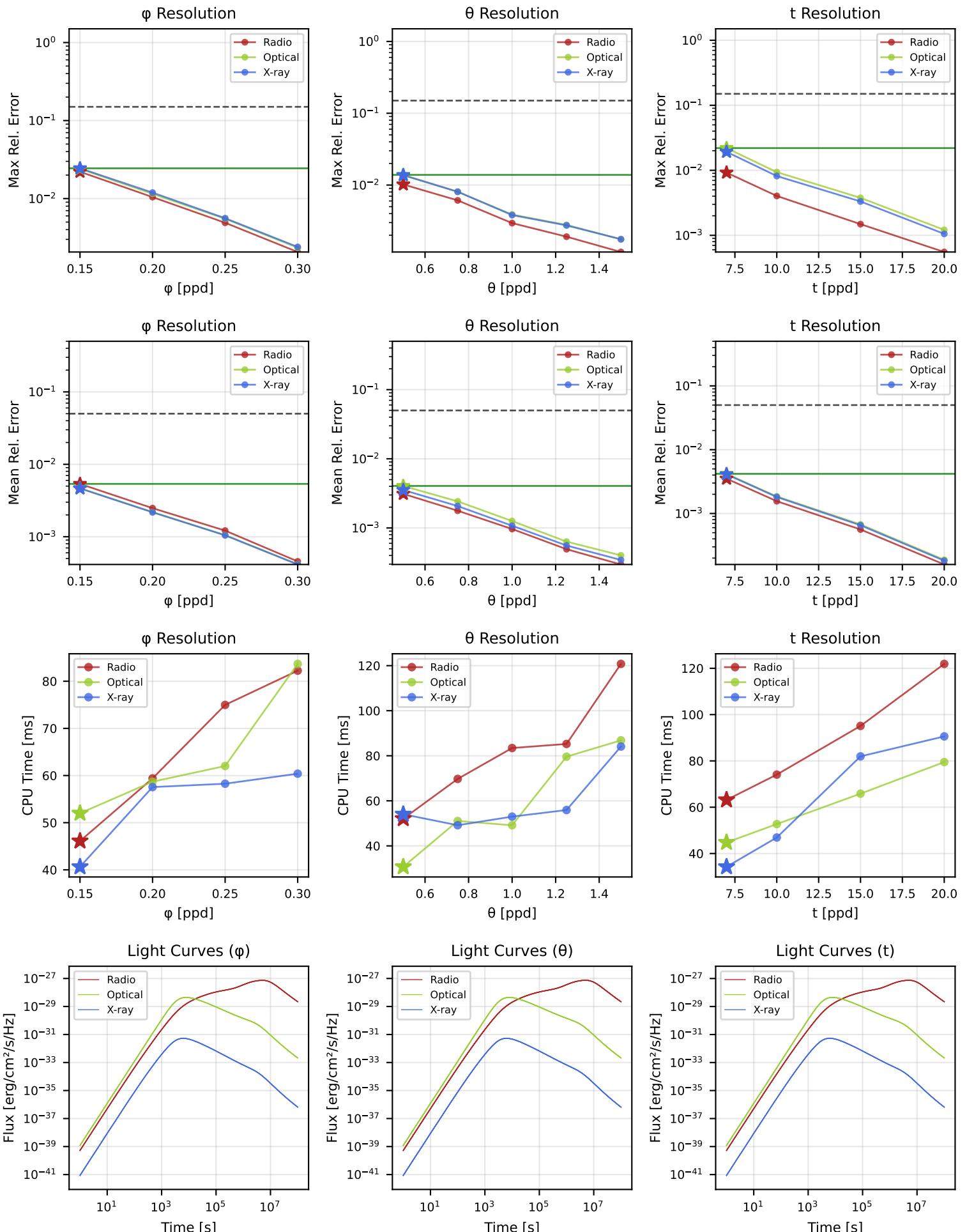
[PASS]

#98: powerlaw / ISM / synchrotron / $\theta_v/\theta_c=2.0$



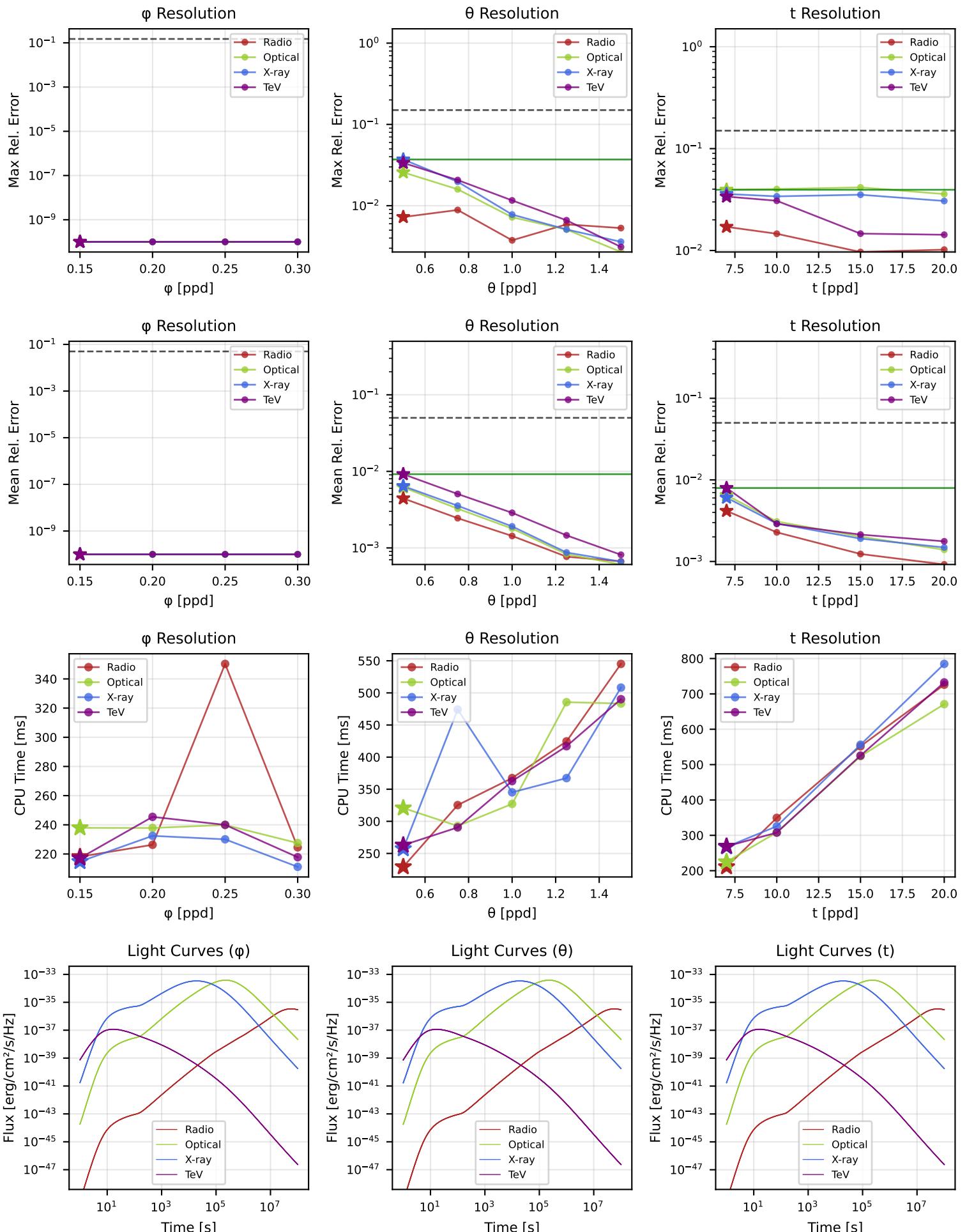
[PASS]

#99: powerlaw / ISM / synchrotron / $\theta_v/\theta_c=4.0$



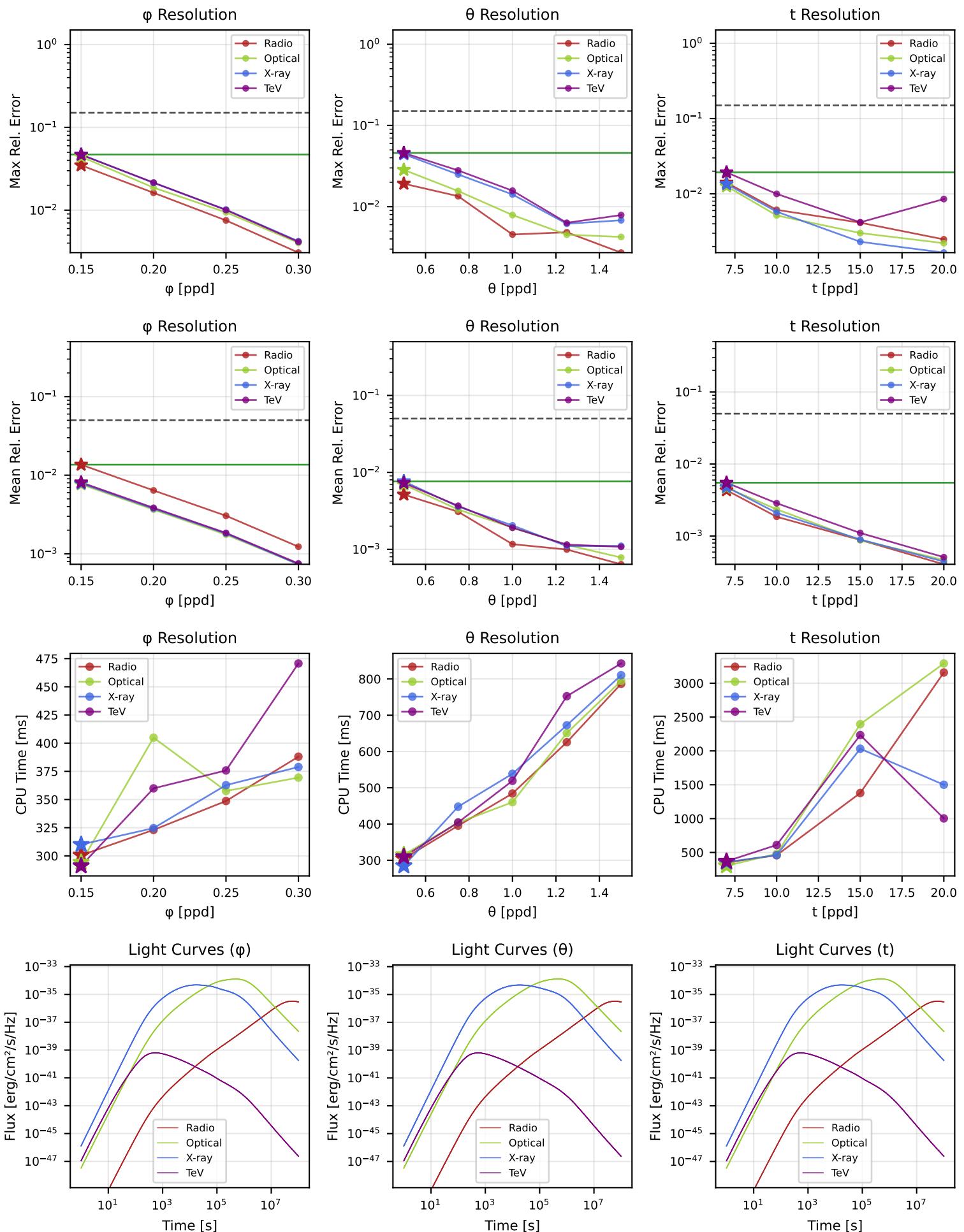
[PASS]

#100: powerlaw / ISM / full_ssc / $\theta_v/\theta_c=0.0$



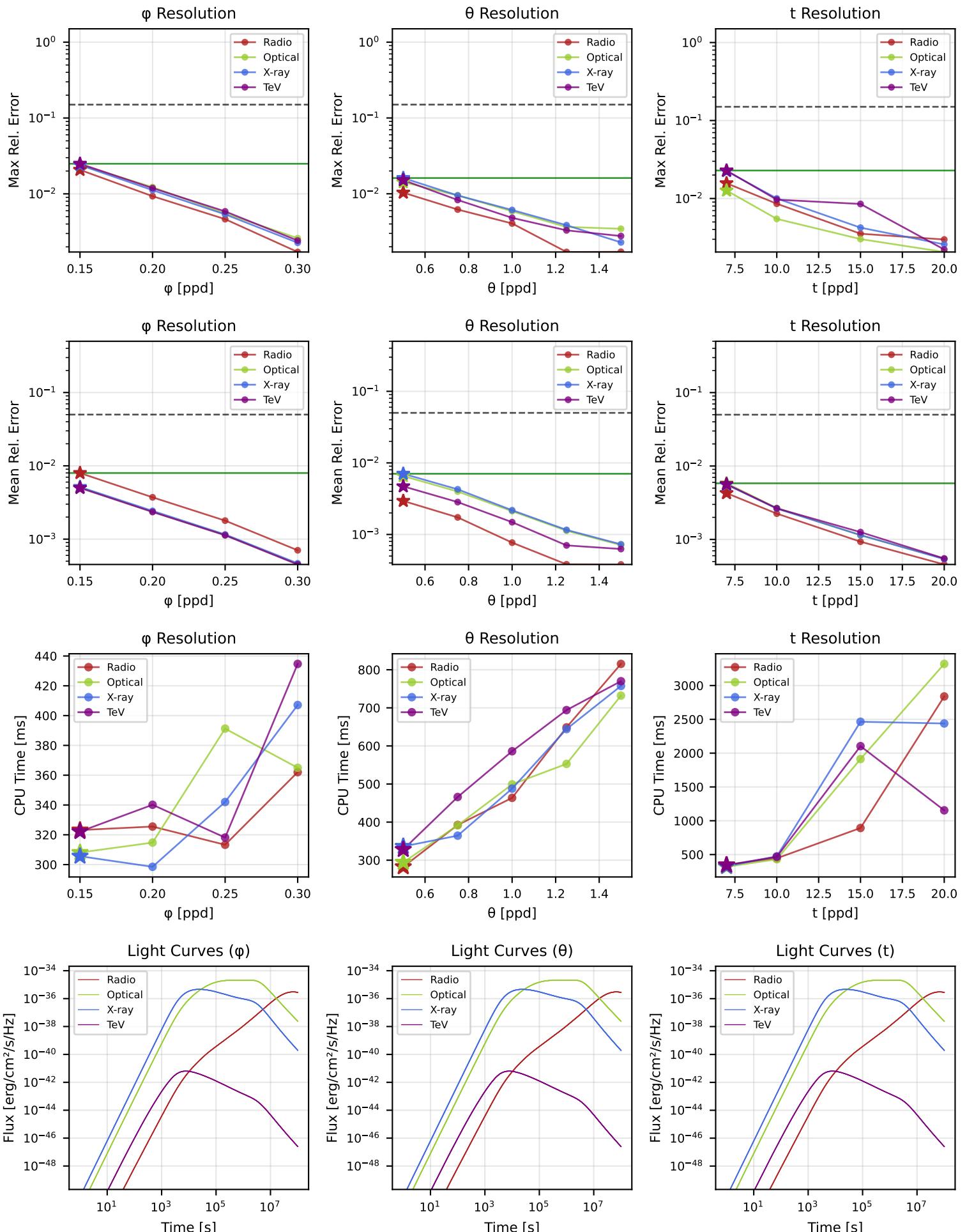
[PASS]

#101: powerlaw / ISM / full_ssc / $\theta_v/\theta_c=2.0$



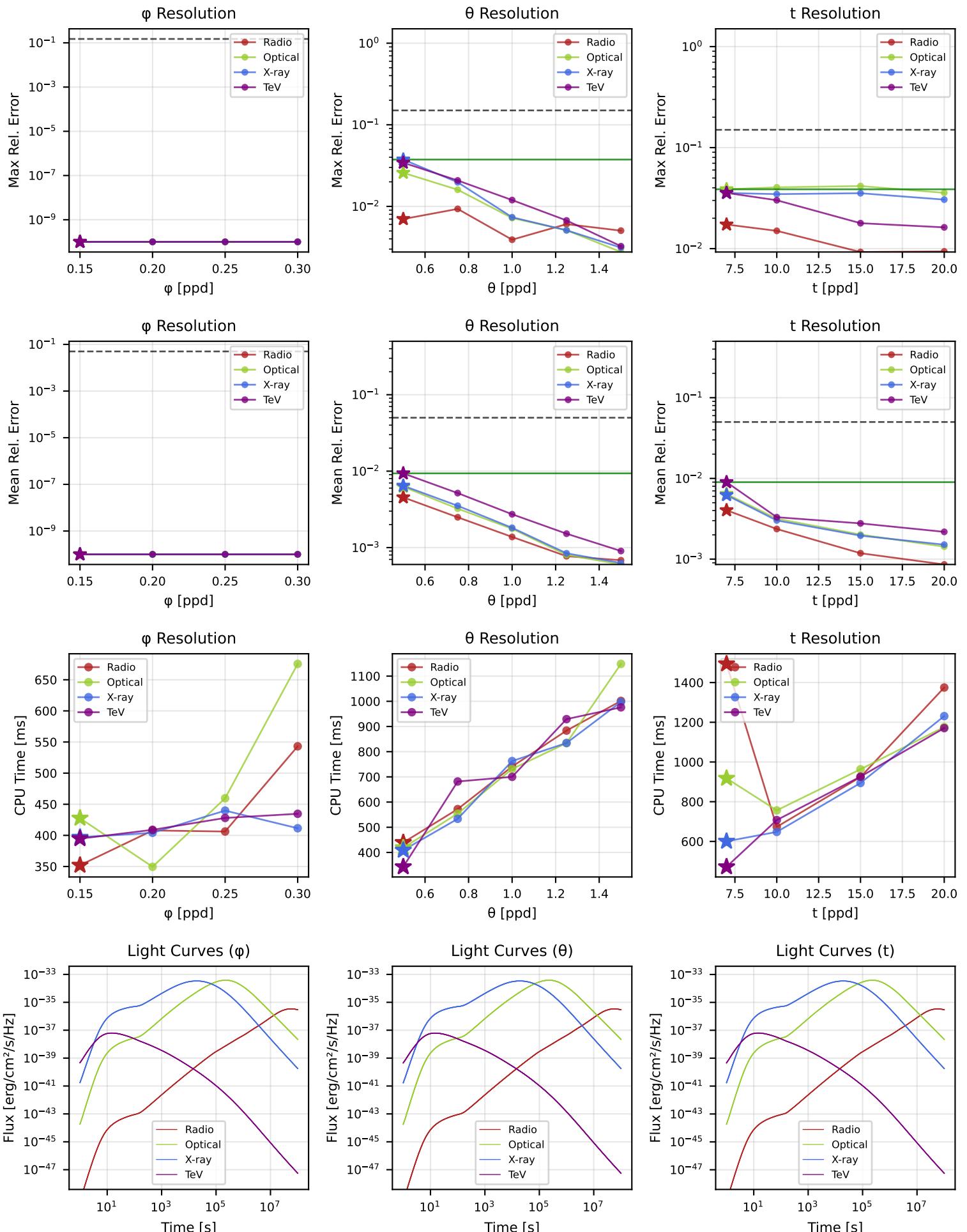
[PASS]

#102: powerlaw / ISM / full_ssc / $\theta_v/\theta_c=4.0$



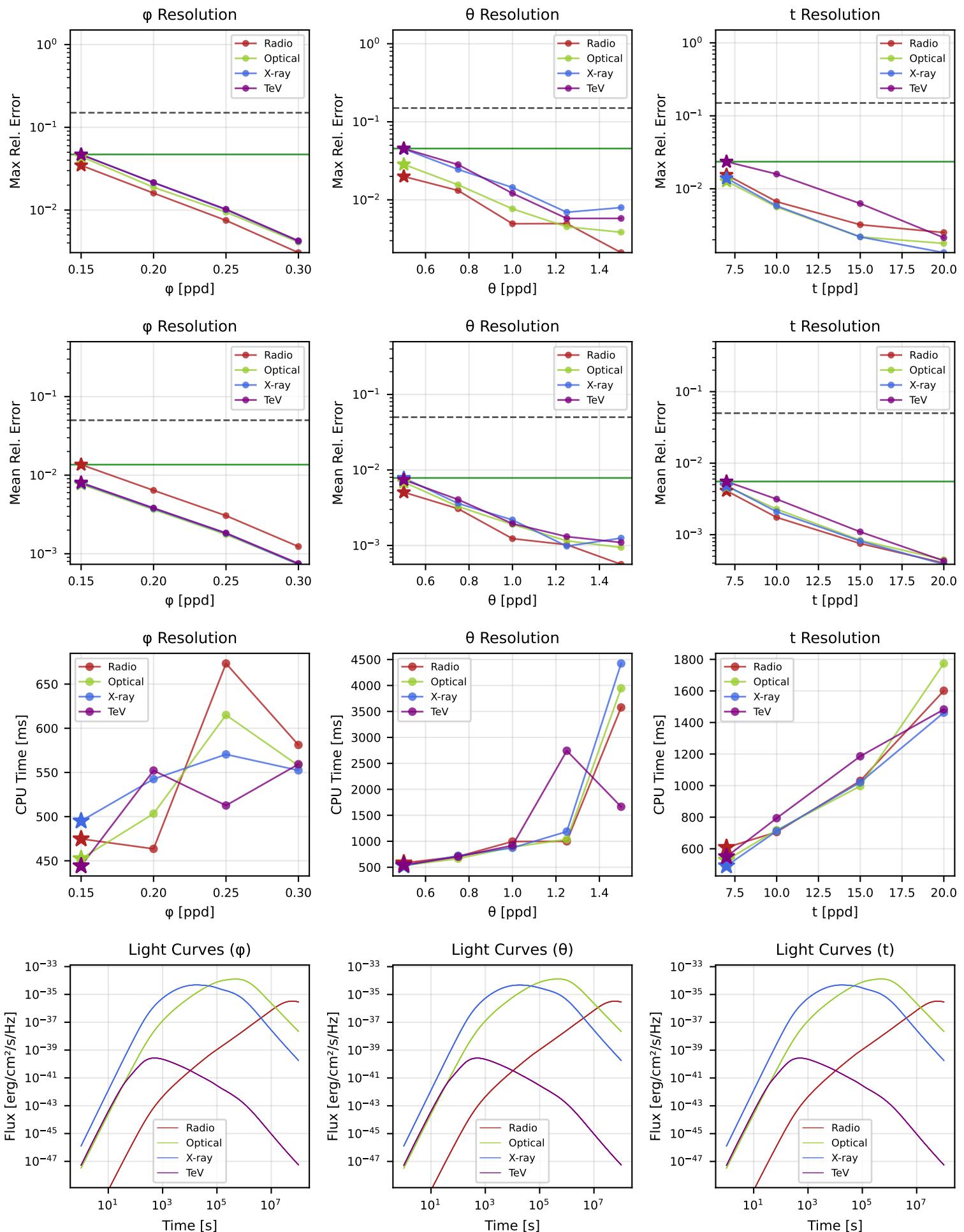
[PASS]

#103: powerlaw / ISM / ssc_kn / $\theta_v/\theta_c=0.0$



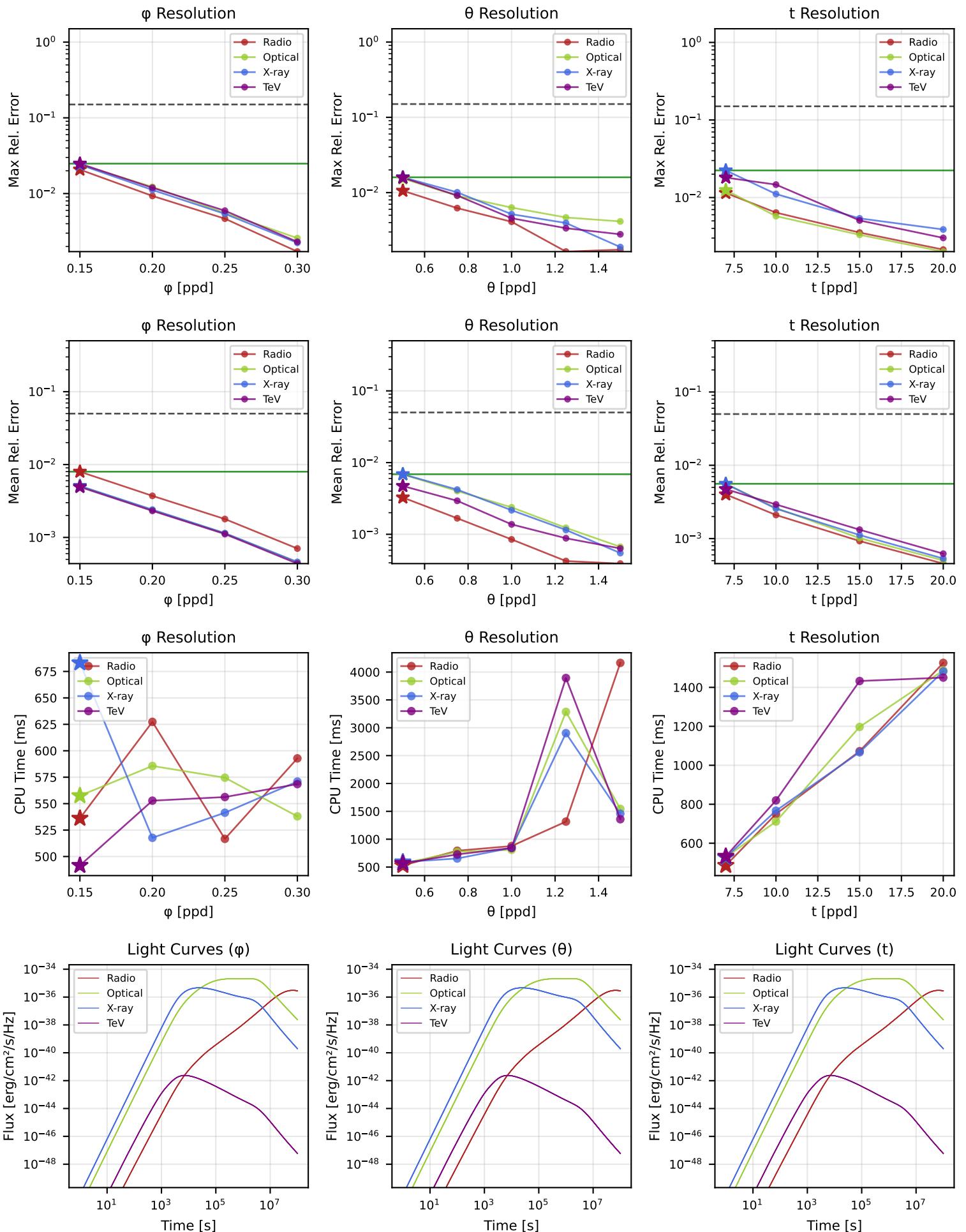
[PASS]

#104: powerlaw / ISM / ssc_kn / $\theta_v/\theta_c=2.0$



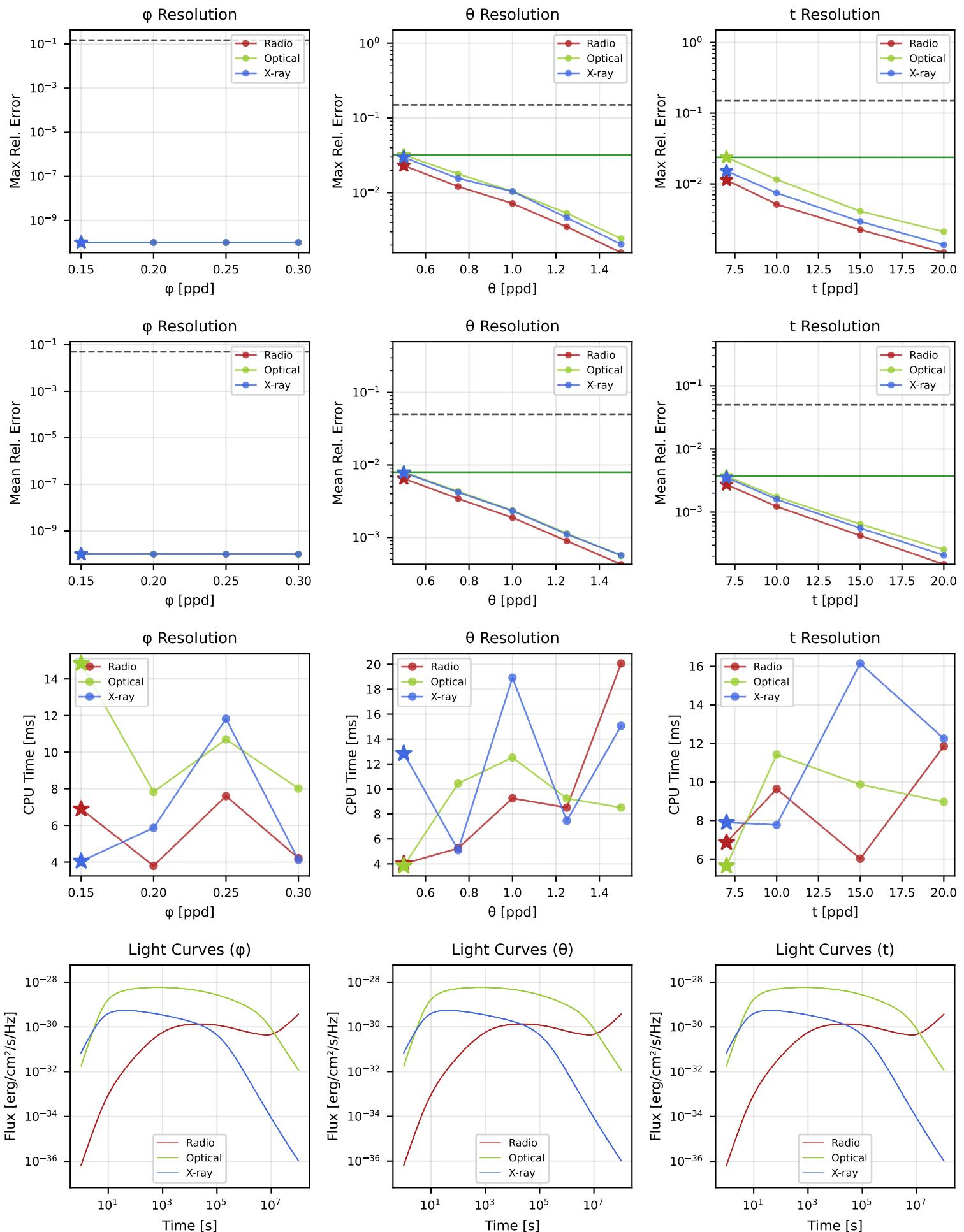
[PASS]

#105: powerlaw / ISM / ssc_kn / $\theta_v/\theta_c=4.0$



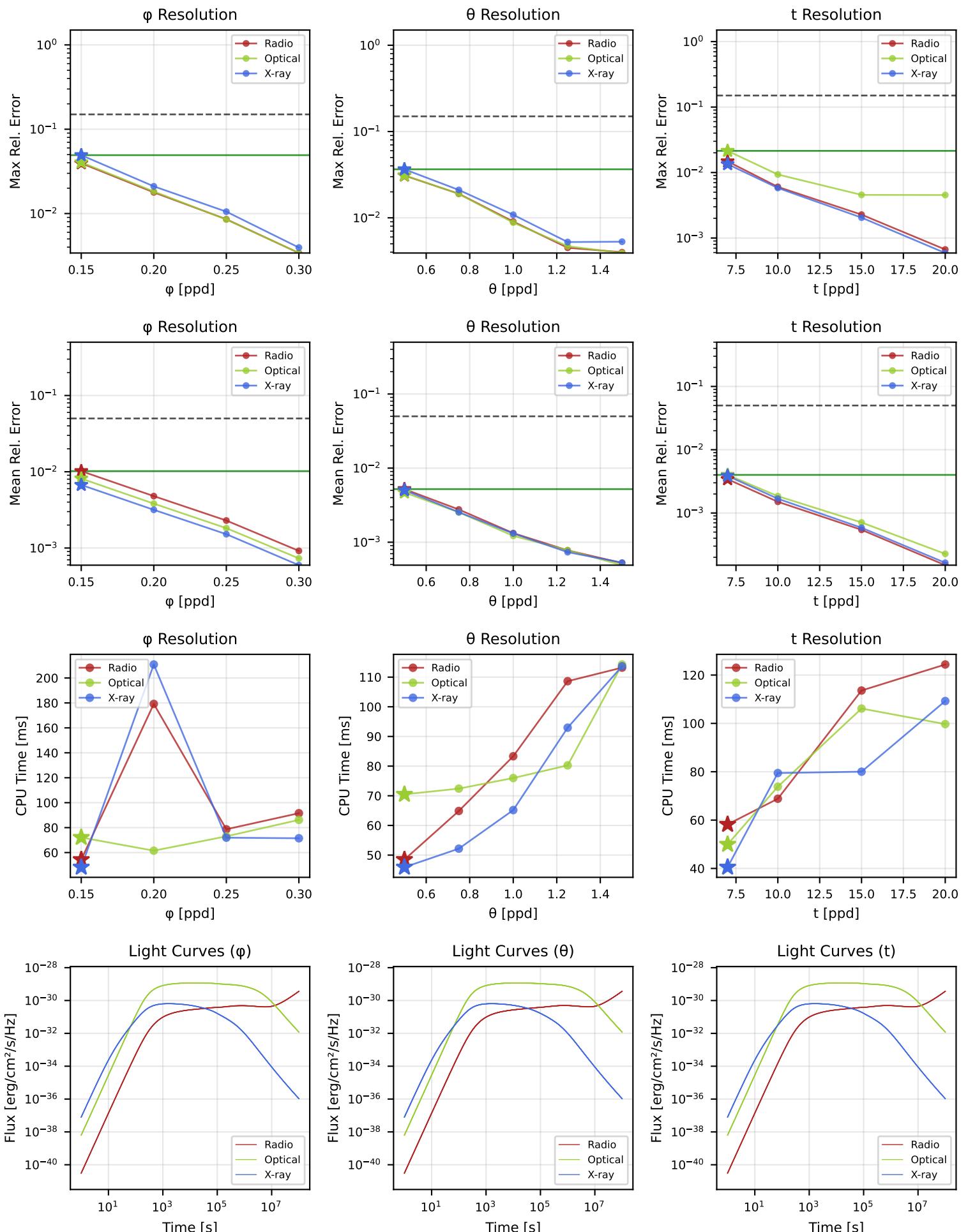
[PASS]

#106: powerlaw / ISM / fast_cooling / $\theta_v/\theta_c=0.0$



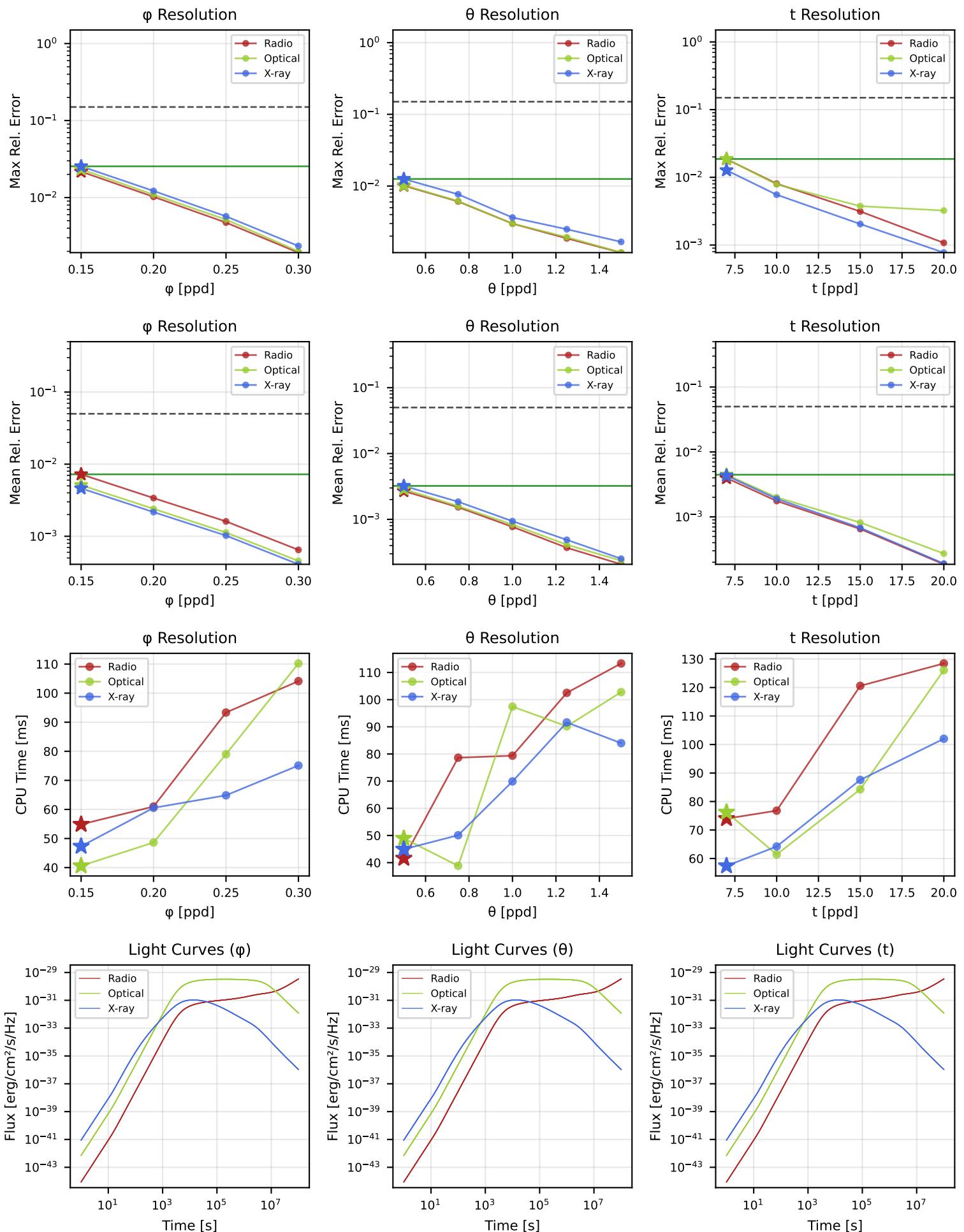
[PASS]

#107: powerlaw / ISM / fast_cooling / $\theta_v/\theta_c=2.0$



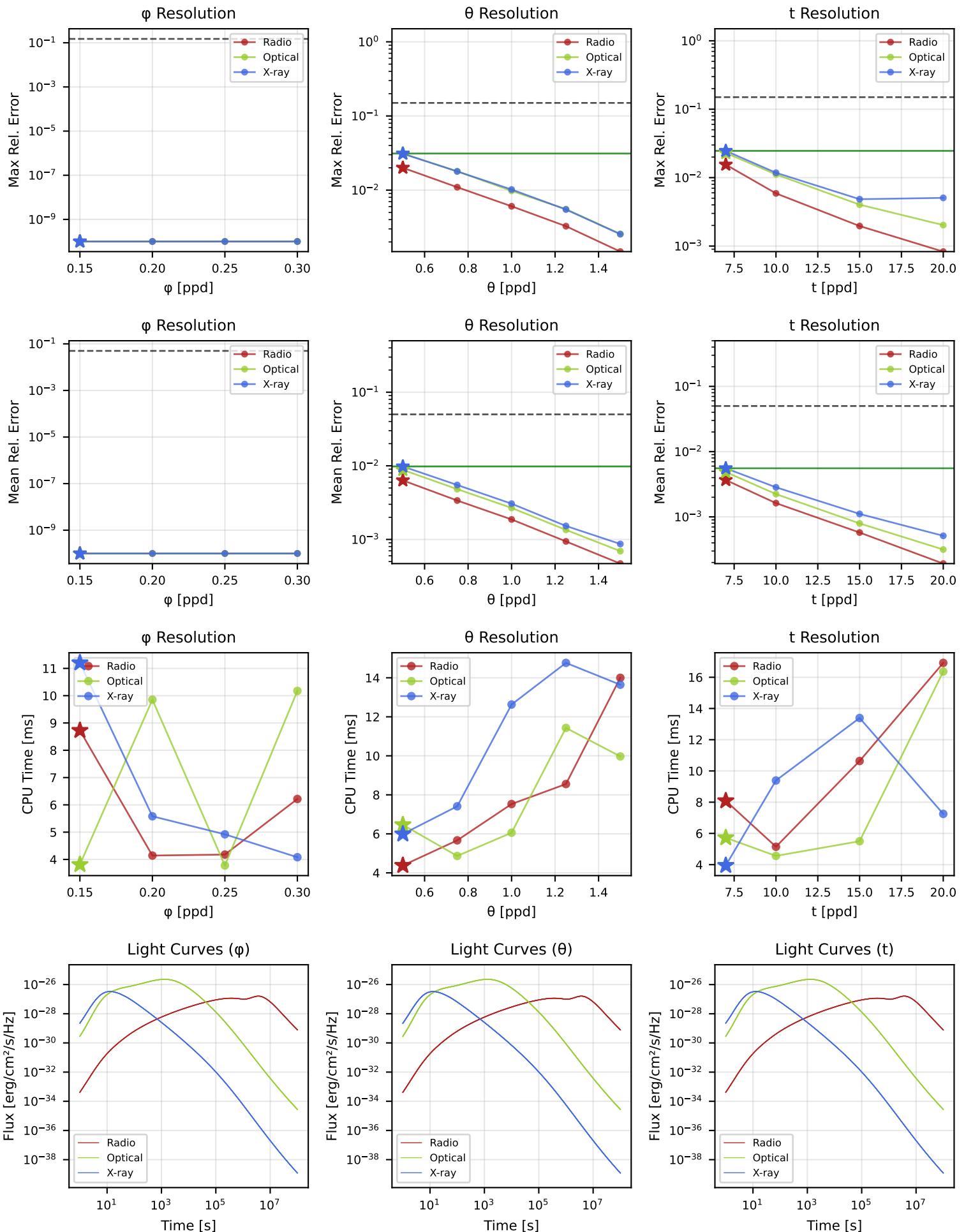
[PASS]

#108: powerlaw / ISM / fast_cooling / $\theta_v/\theta_c=4.0$

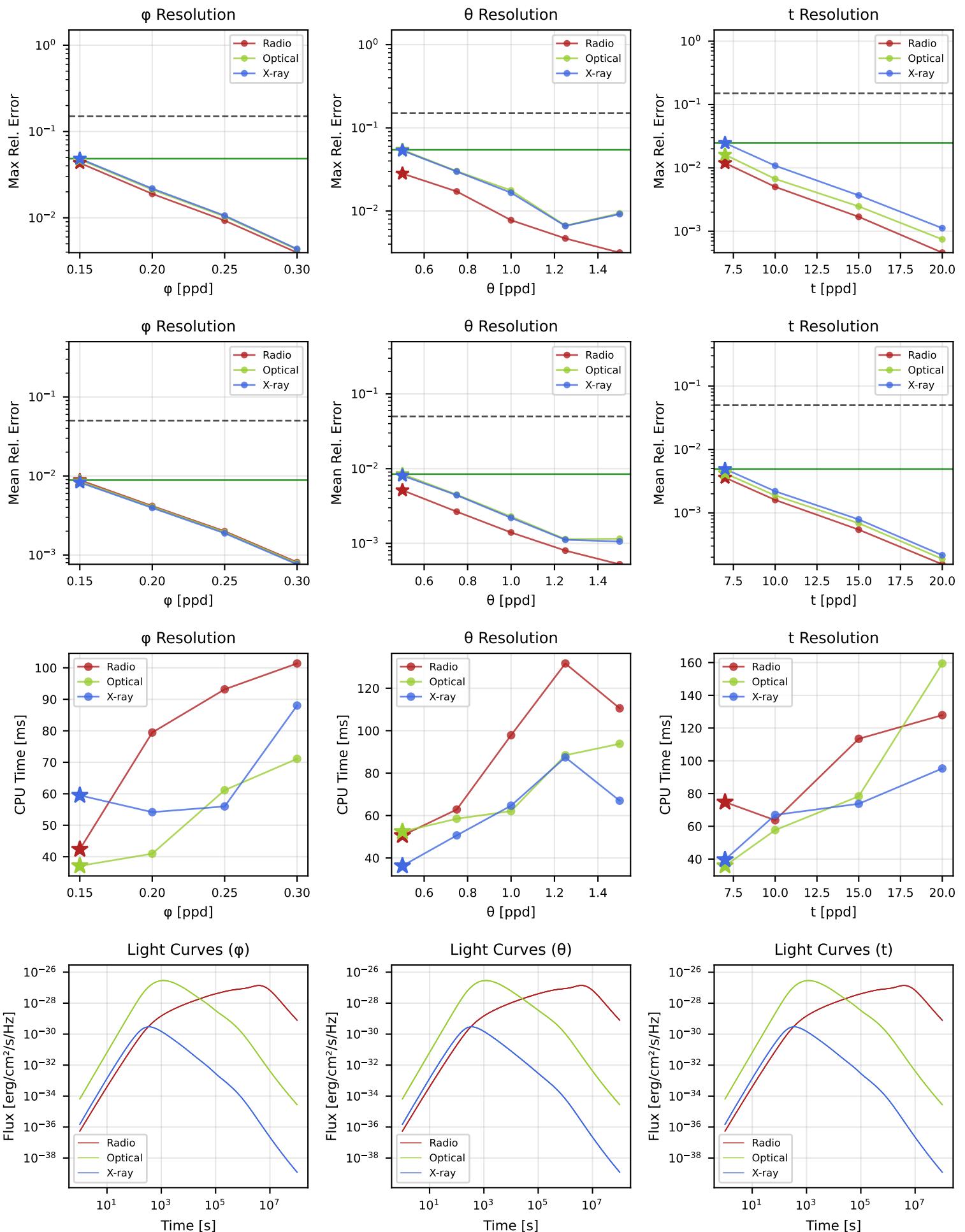


[PASS]

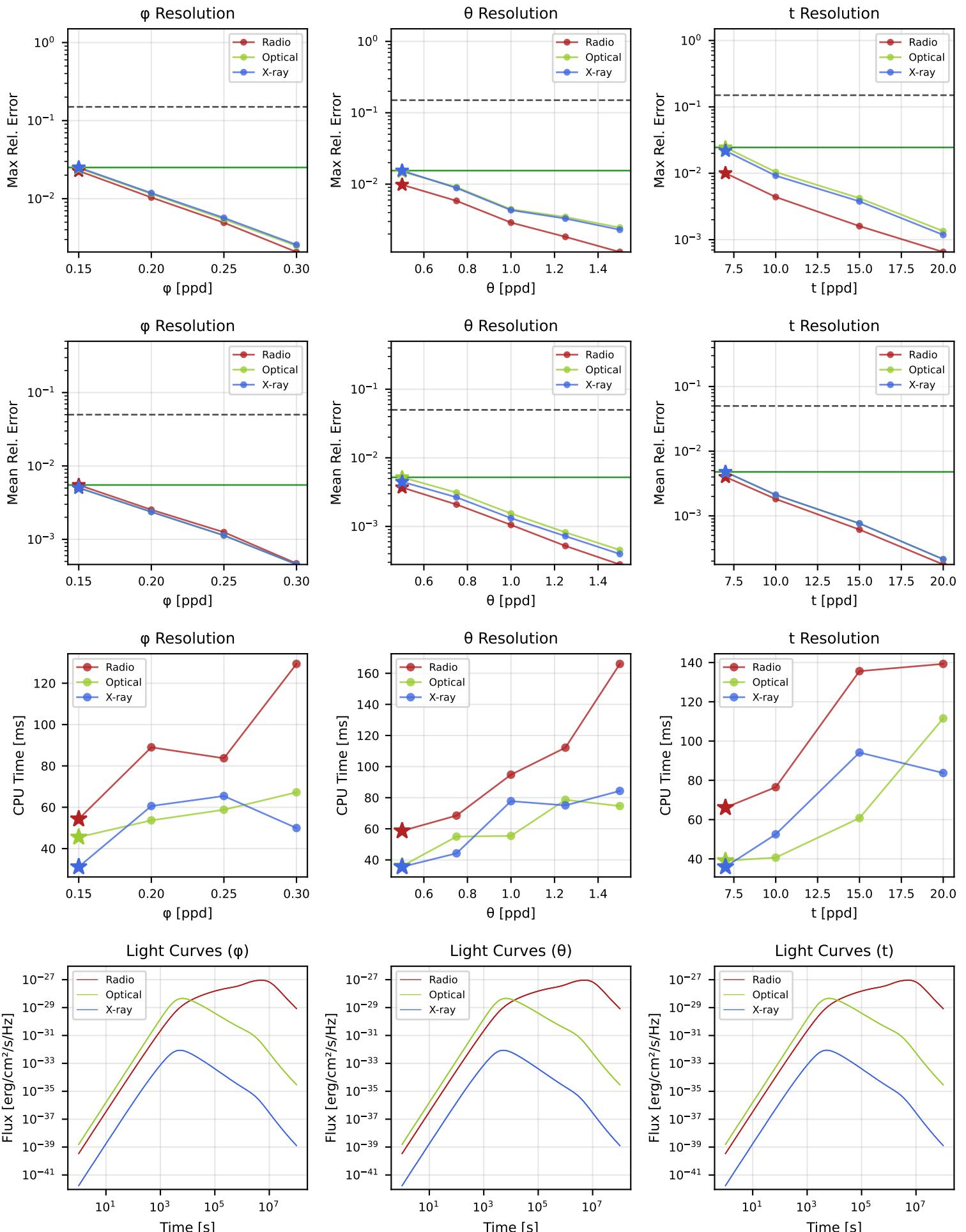
#109: powerlaw / ISM / steep_spectrum / $\theta_v/\theta_c=0.0$



[PASS]

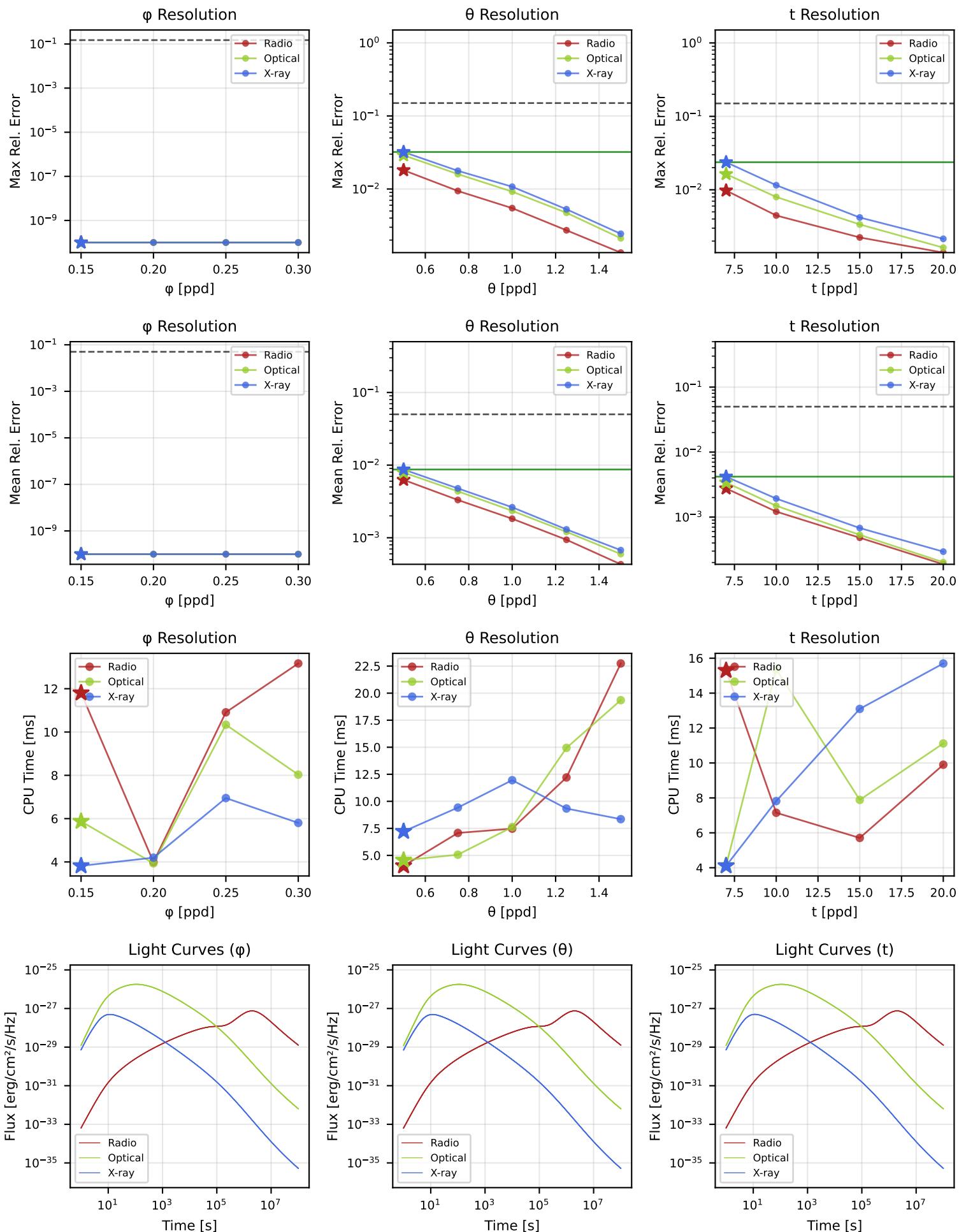
#110: powerlaw / ISM / steep_spectrum / $\theta_v/\theta_c=2.0$ 

[PASS]

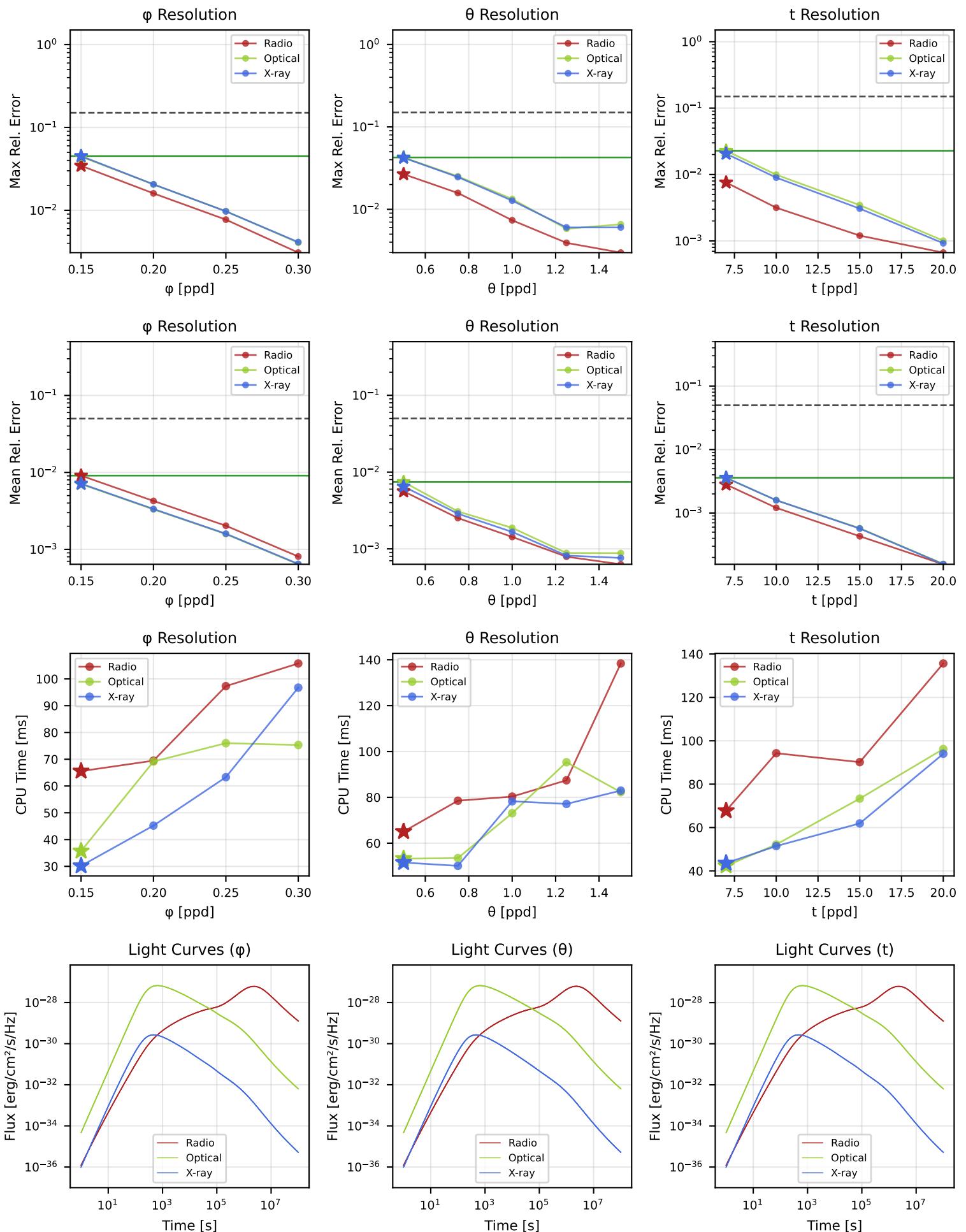
#111: powerlaw / ISM / steep_spectrum / $\theta_v/\theta_c=4.0$ 

[PASS]

#112: powerlaw / ISM / flat_spectrum / $\theta_v/\theta_c=0.0$

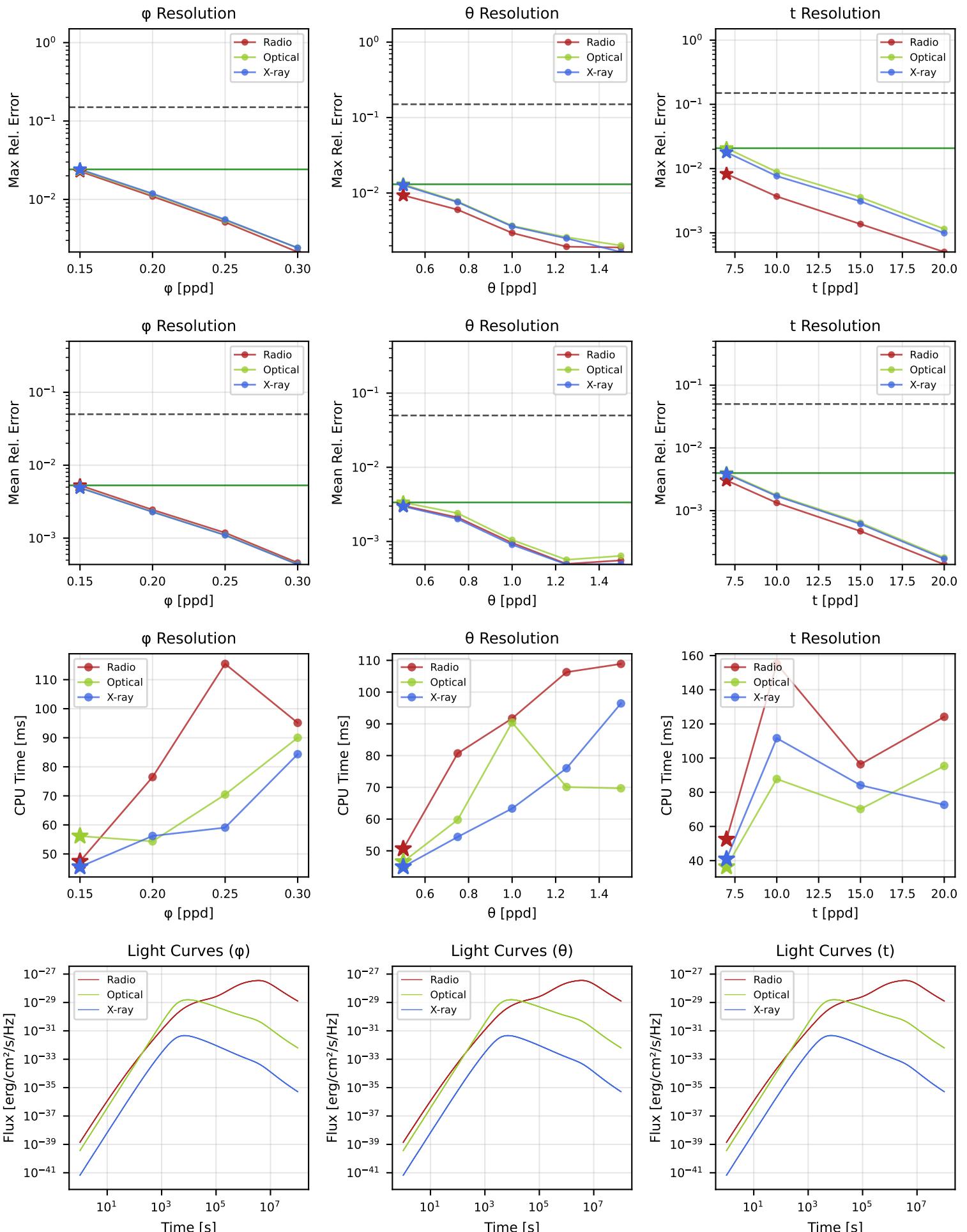


[PASS]

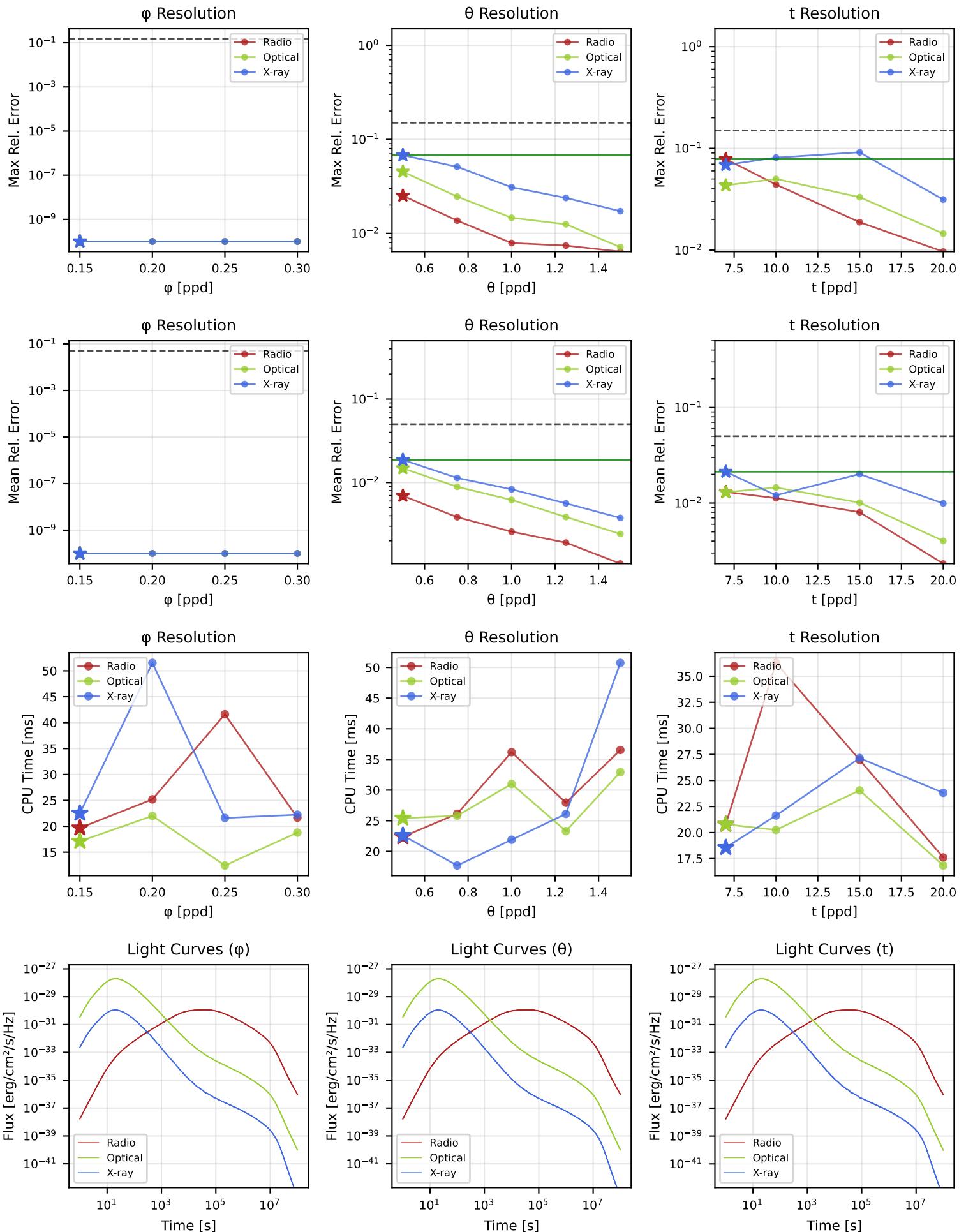
#113: powerlaw / ISM / flat_spectrum / $\theta_v/\theta_c=2.0$ 

[PASS]

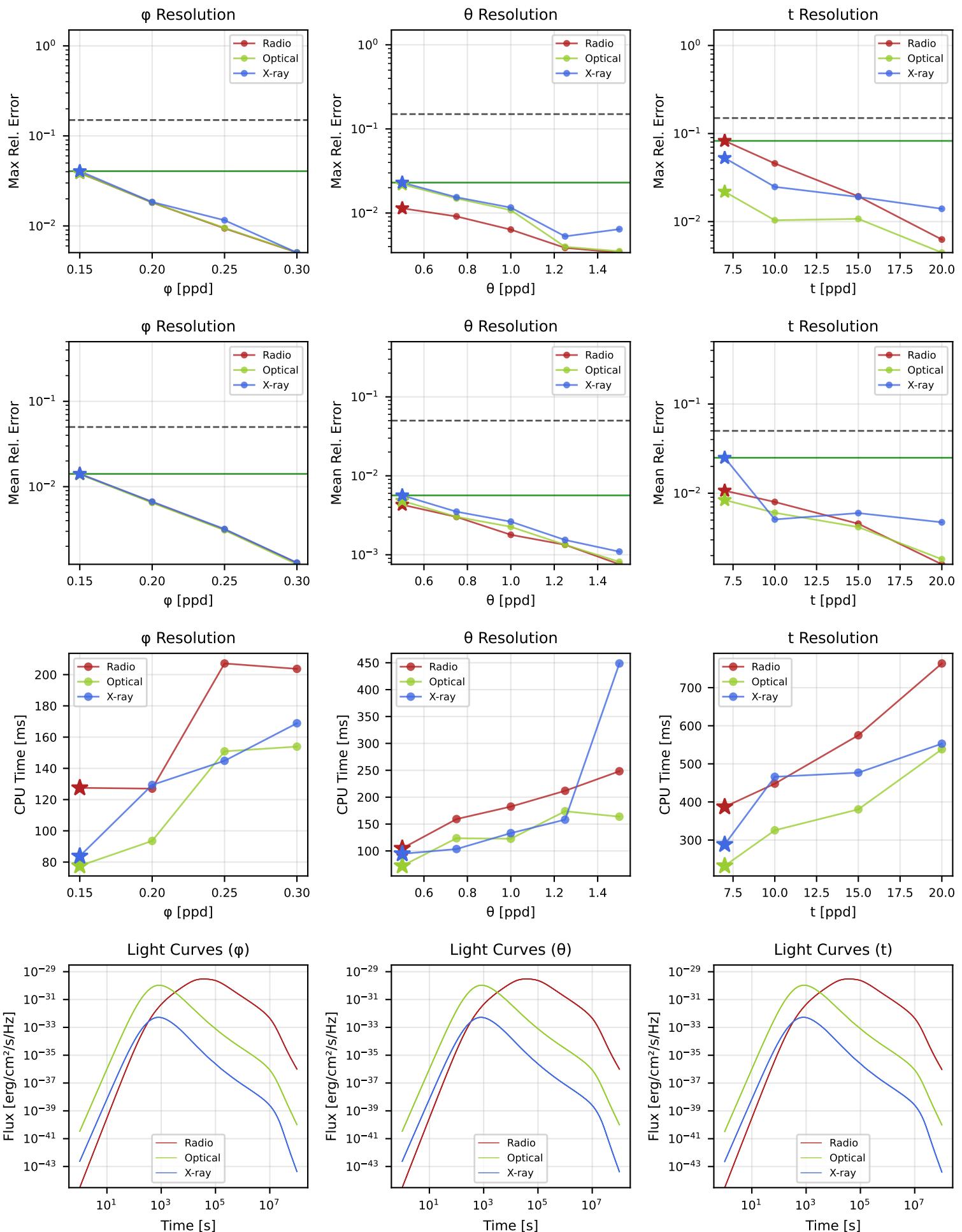
#114: powerlaw / ISM / flat_spectrum / $\theta_v/\theta_c=4.0$



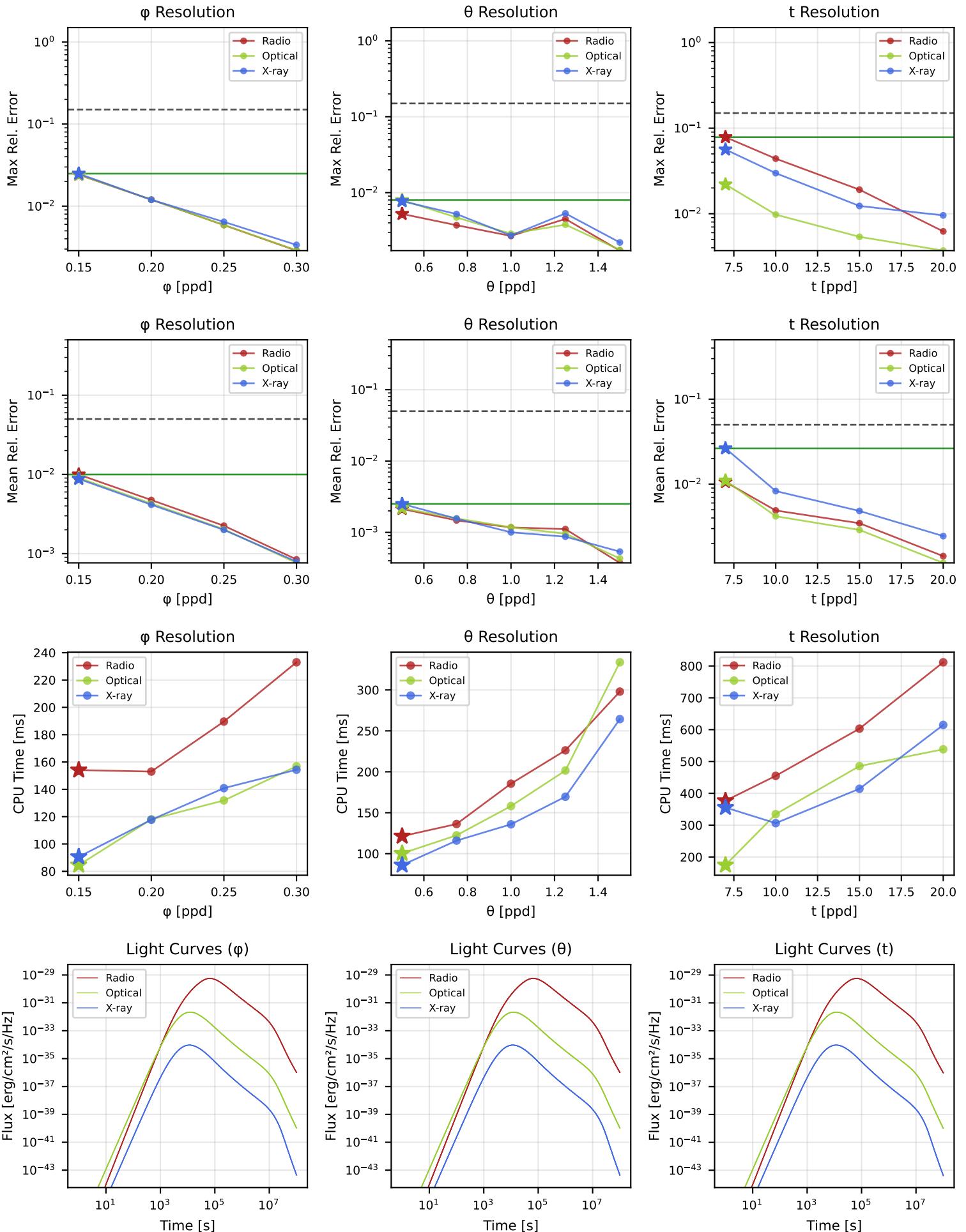
[PASS]

#115: powerlaw / ISM / rvs_sync_thin / $\theta_v/\theta_c=0.0$ 

[PASS]

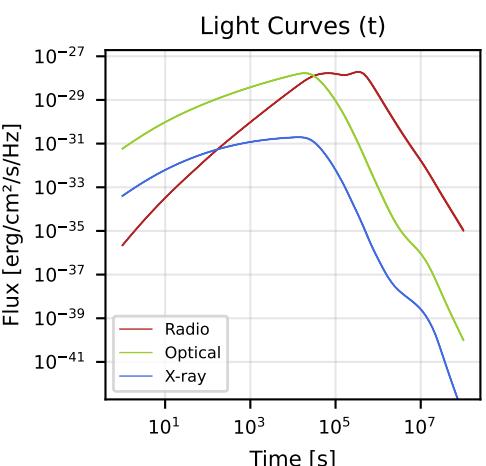
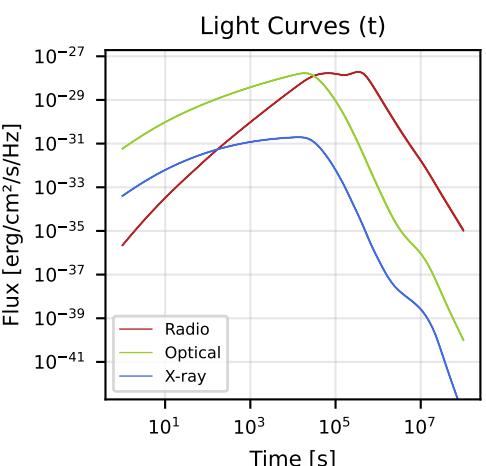
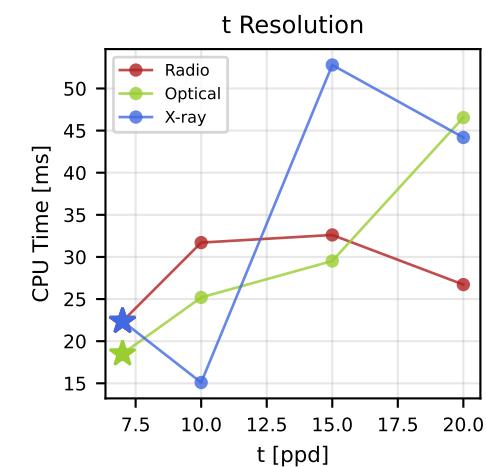
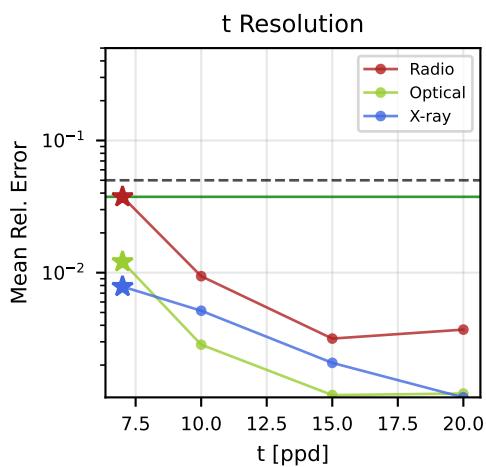
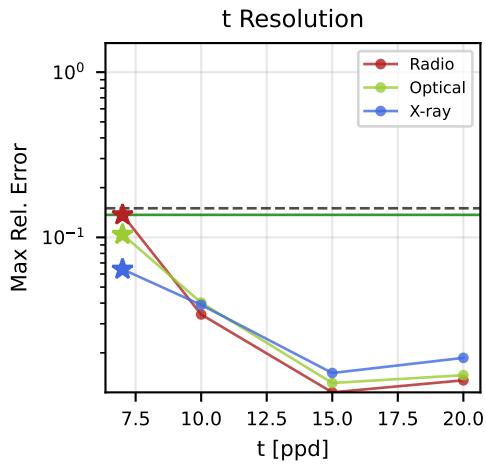
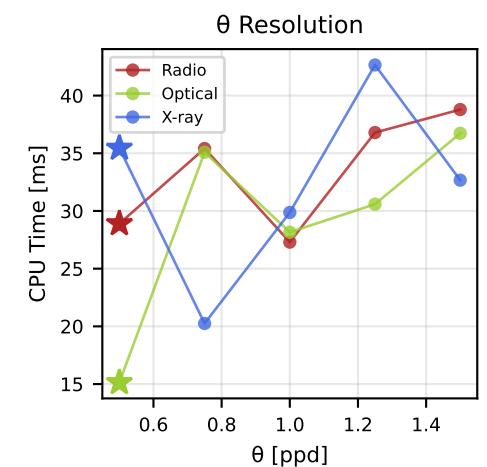
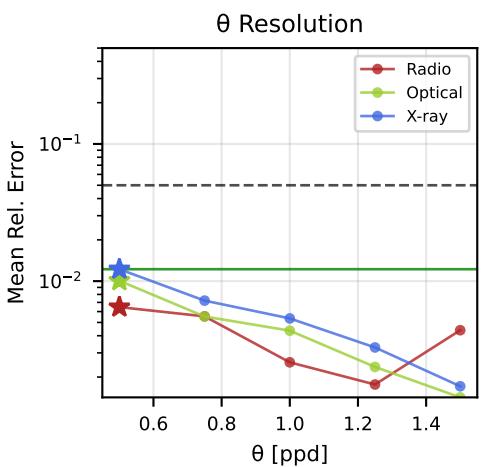
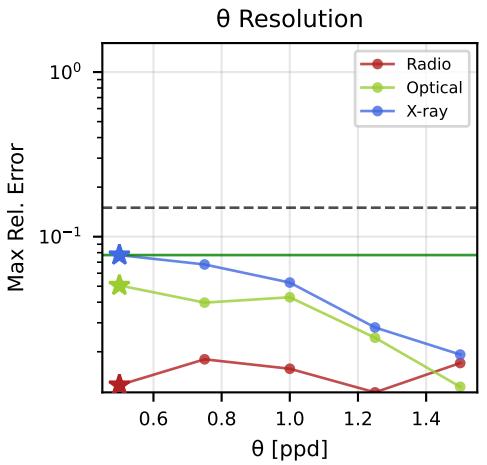
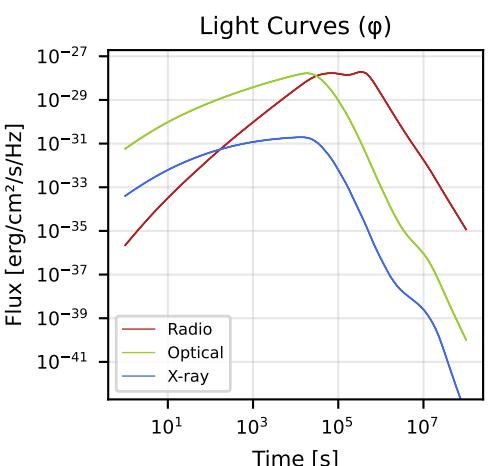
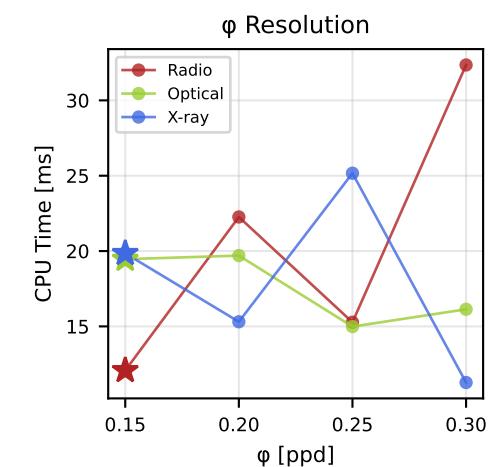
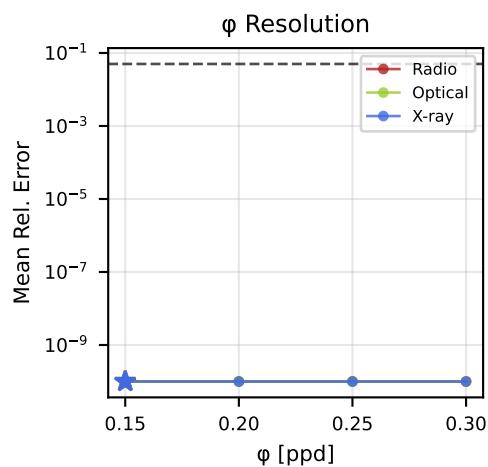
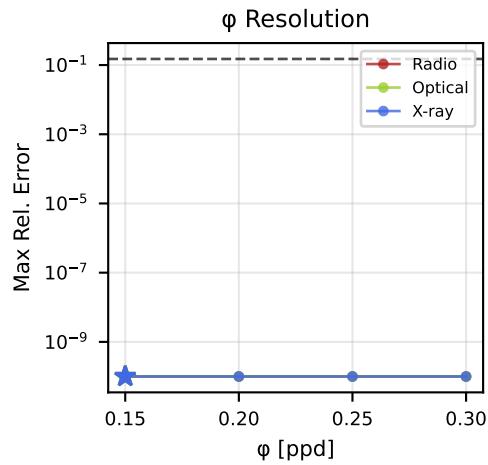
#116: powerlaw / ISM / rvs_sync_thin / $\theta_v/\theta_c=2.0$ 

[PASS]

#117: powerlaw / ISM / rvs_sync_thin / $\theta_v/\theta_c=4.0$ 

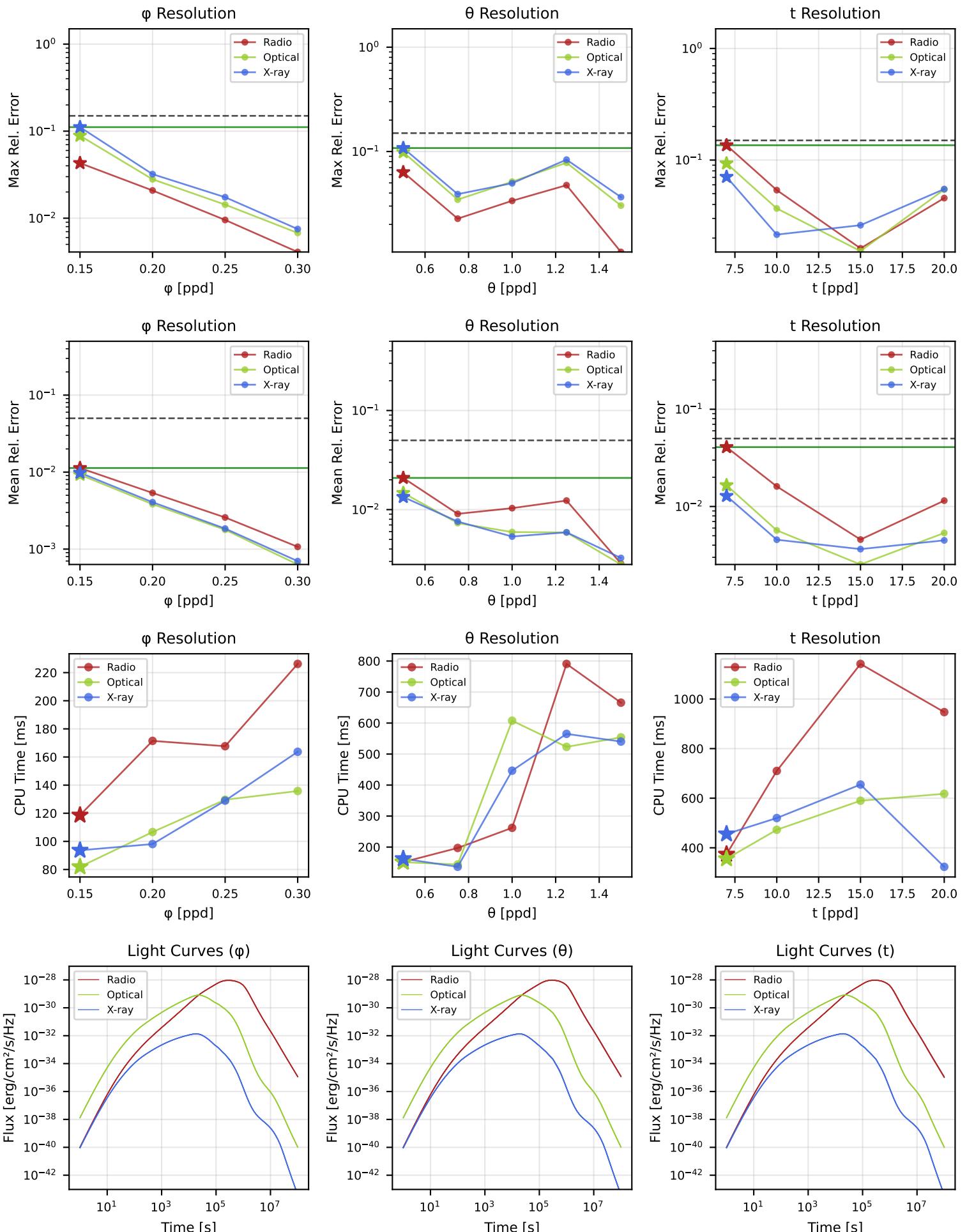
[PASS]

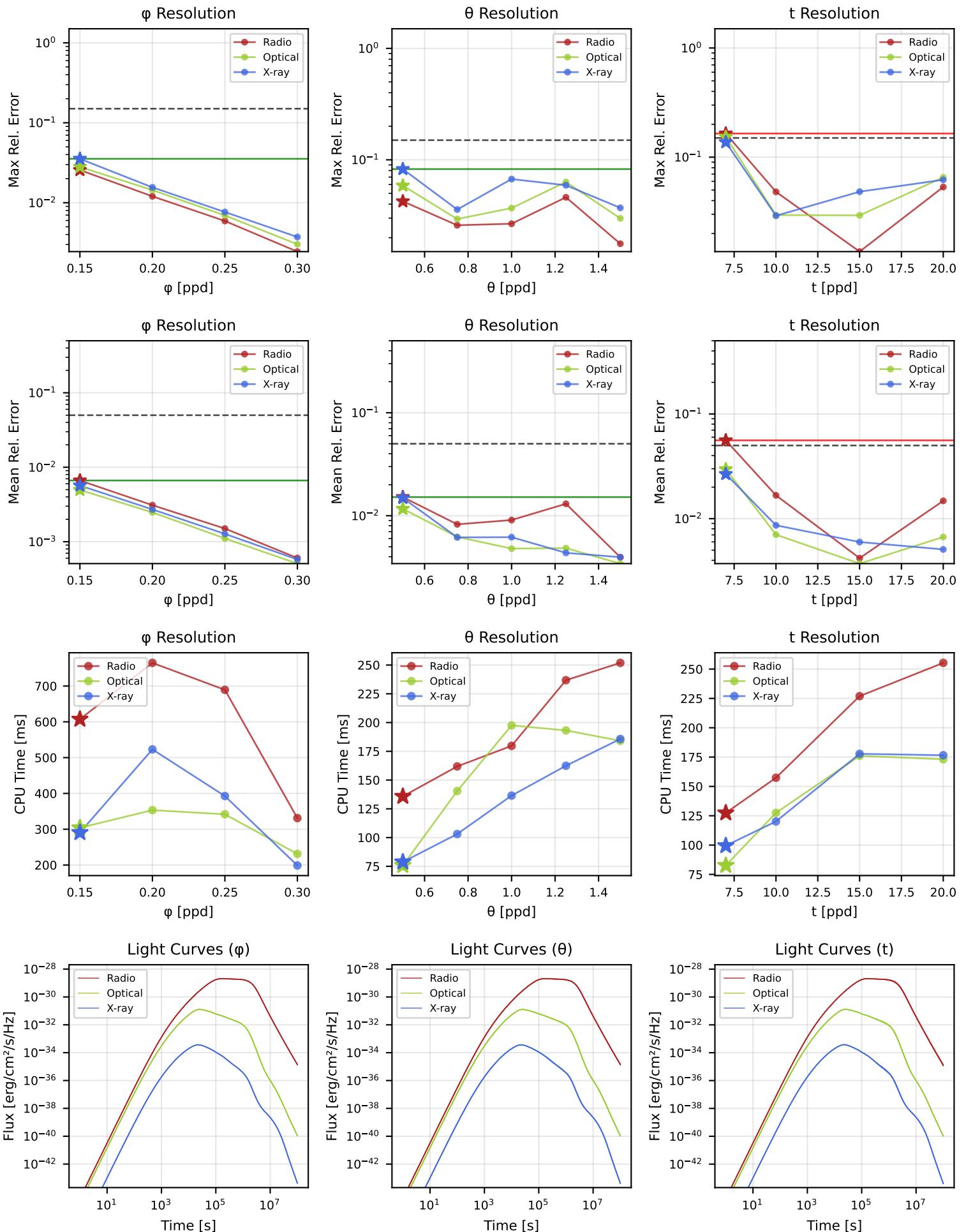
#118: powerlaw / ISM / rvs_sync_thick / $\theta_v/\theta_c=0.0$



[PASS]

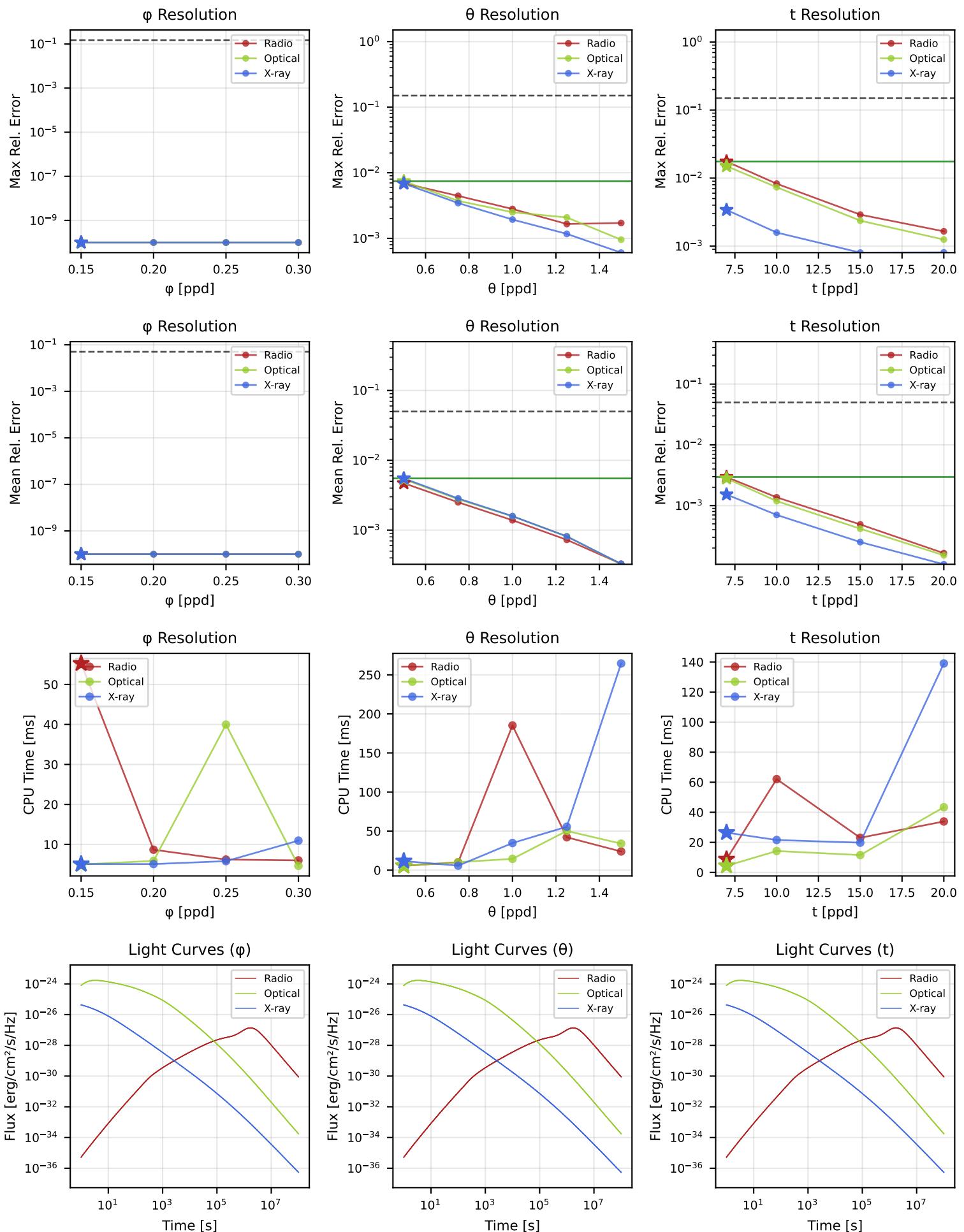
#119: powerlaw / ISM / rvs_sync_thick / $\theta_v/\theta_c=2.0$



[FAIL]#120: powerlaw / ISM / rvs_sync_thick / $\theta_v/\theta_c=4.0$ 

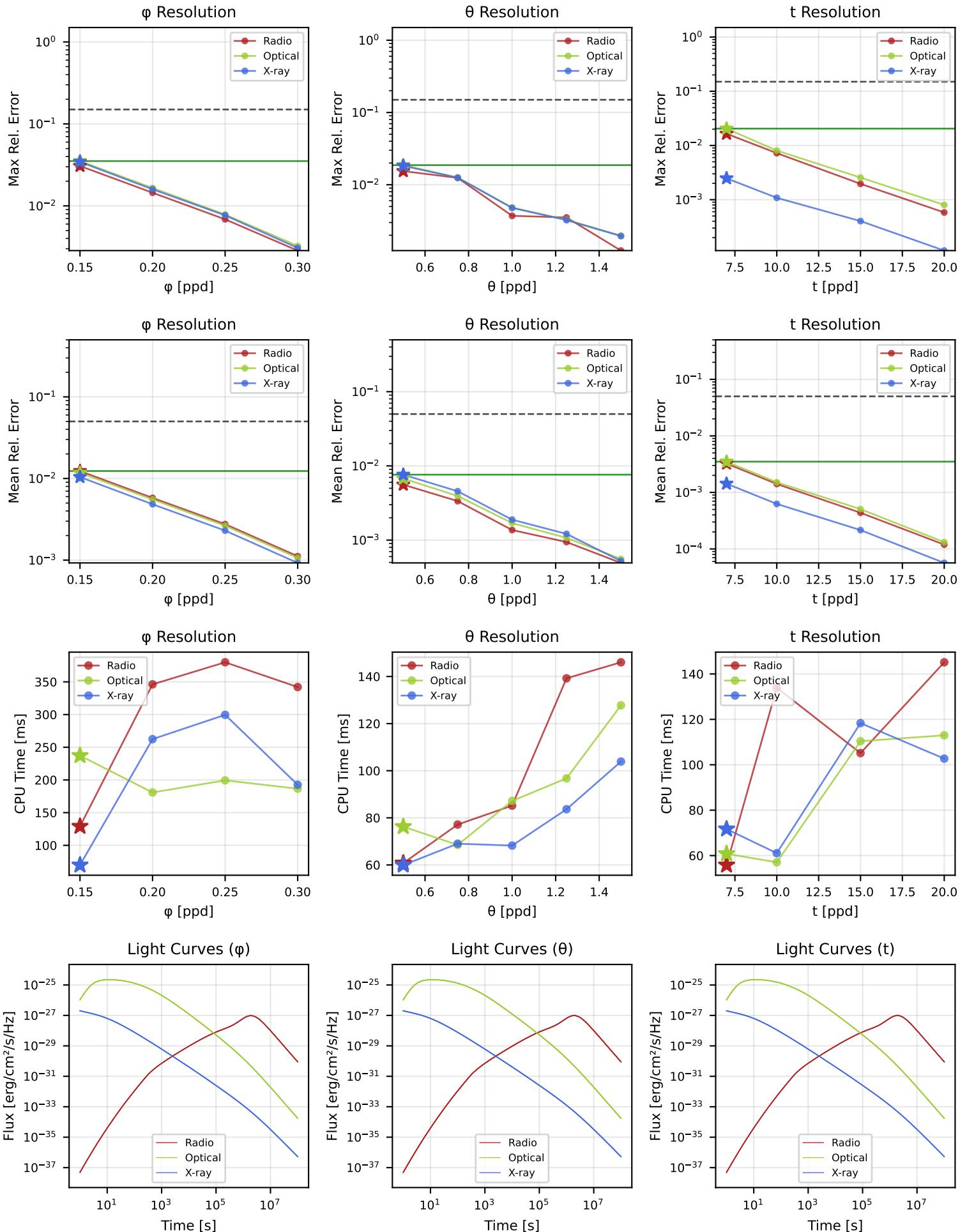
[PASS]

#121: powerlaw / wind / synchrotron / $\theta_v/\theta_c=0.0$



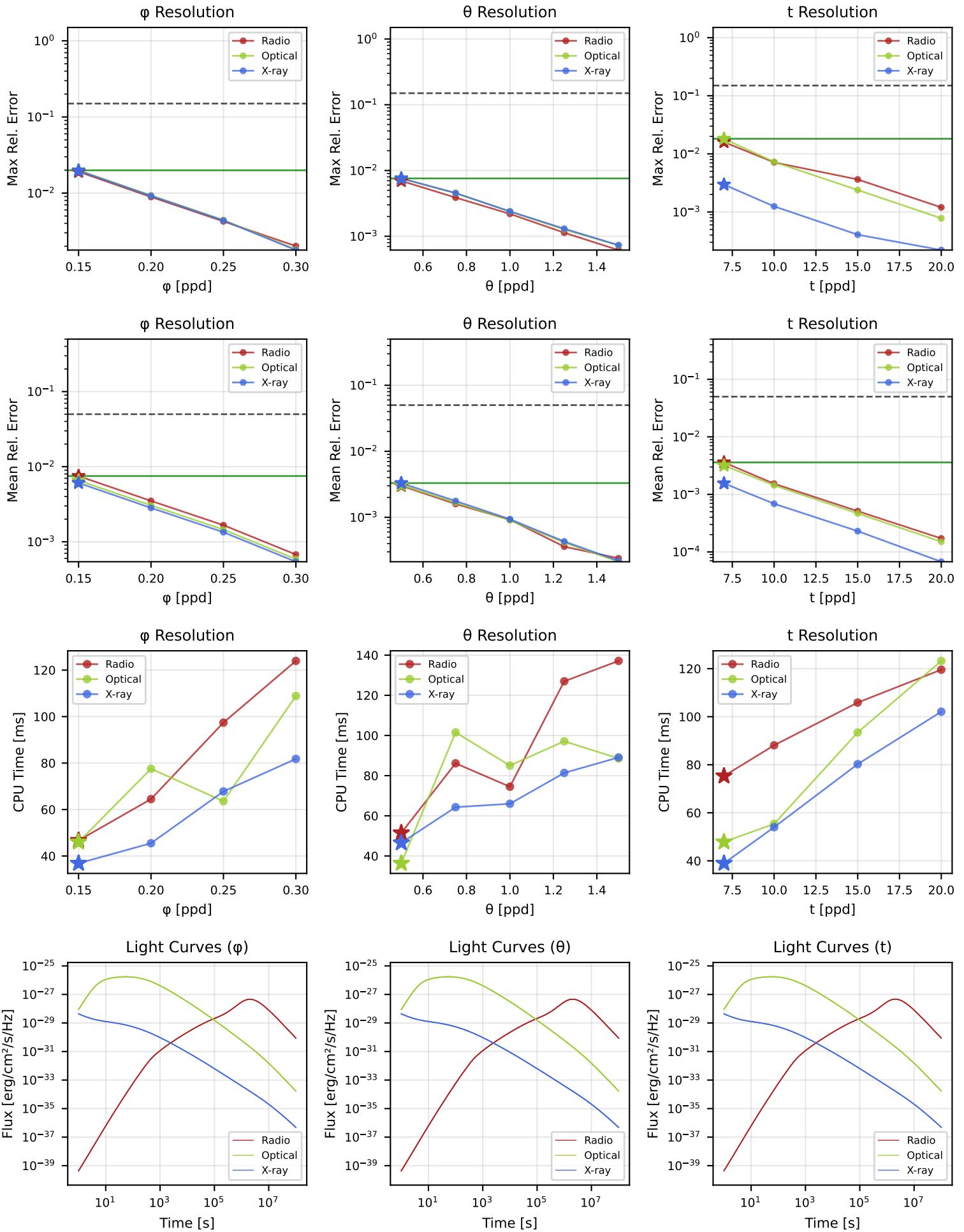
[PASS]

#122: powerlaw / wind / synchrotron / $\theta_v/\theta_c=2.0$



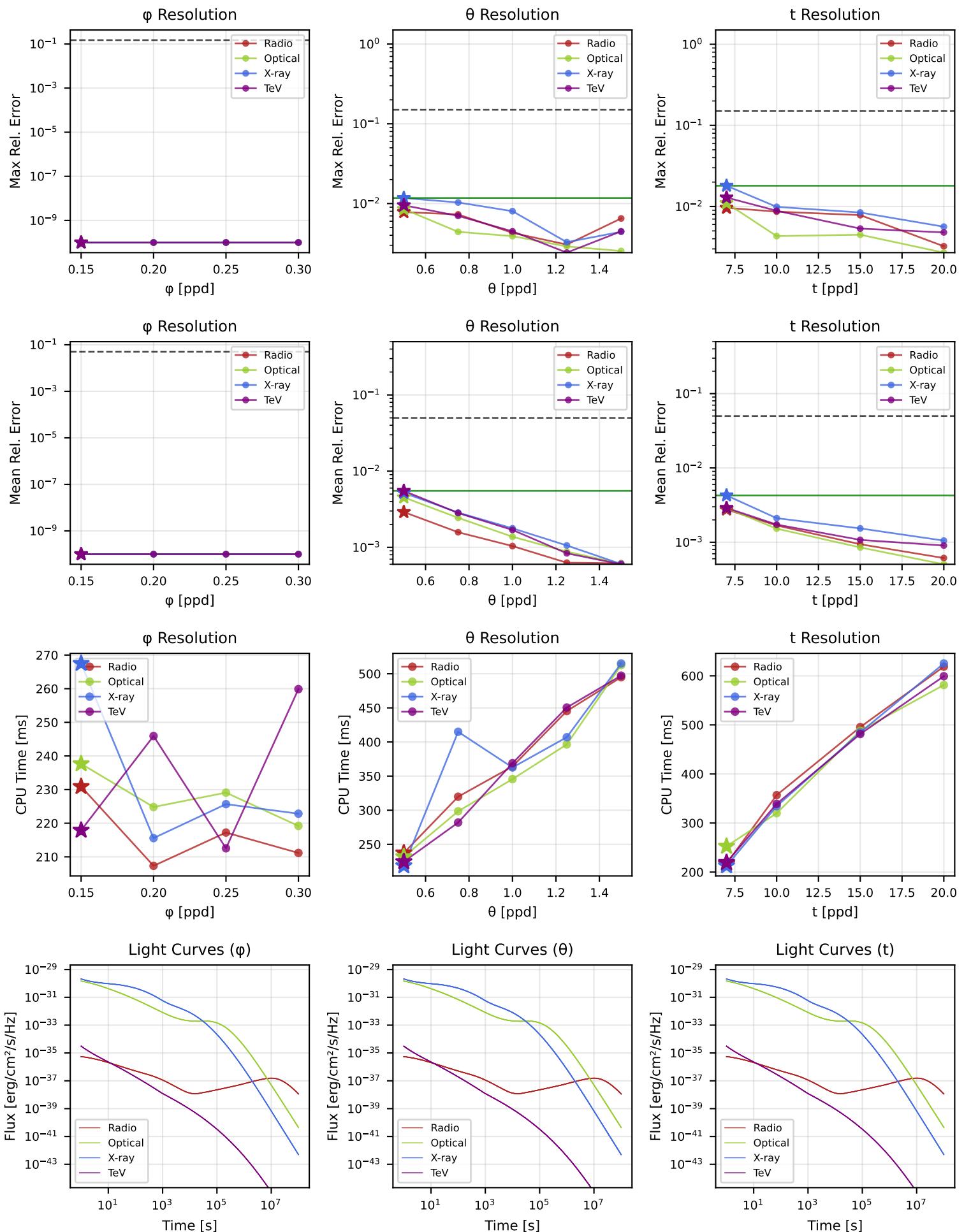
[PASS]

#123: powerlaw / wind / synchrotron / $\theta_v/\theta_c=4.0$



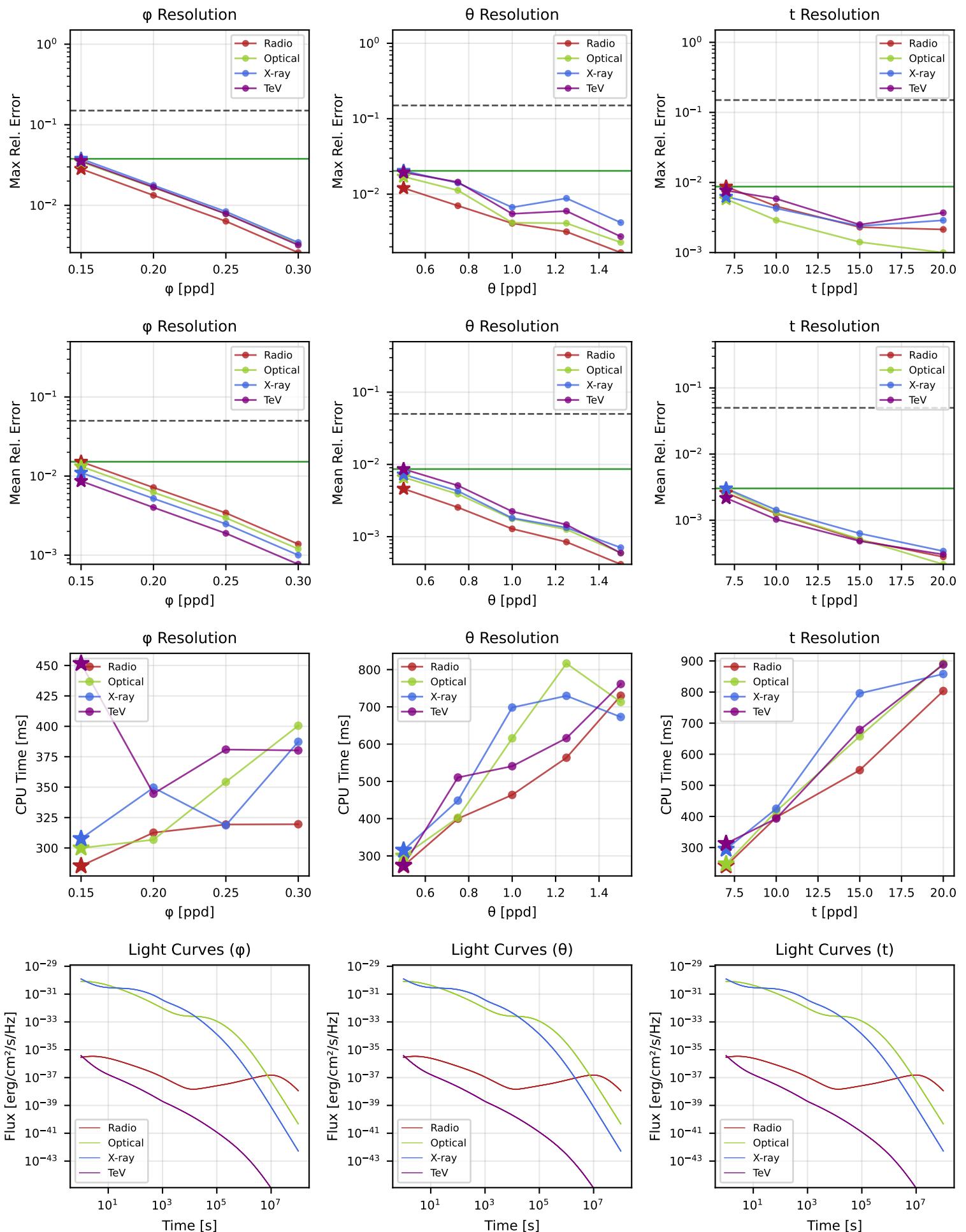
[PASS]

#124: powerlaw / wind / full_ssc / $\theta_v/\theta_c=0.0$



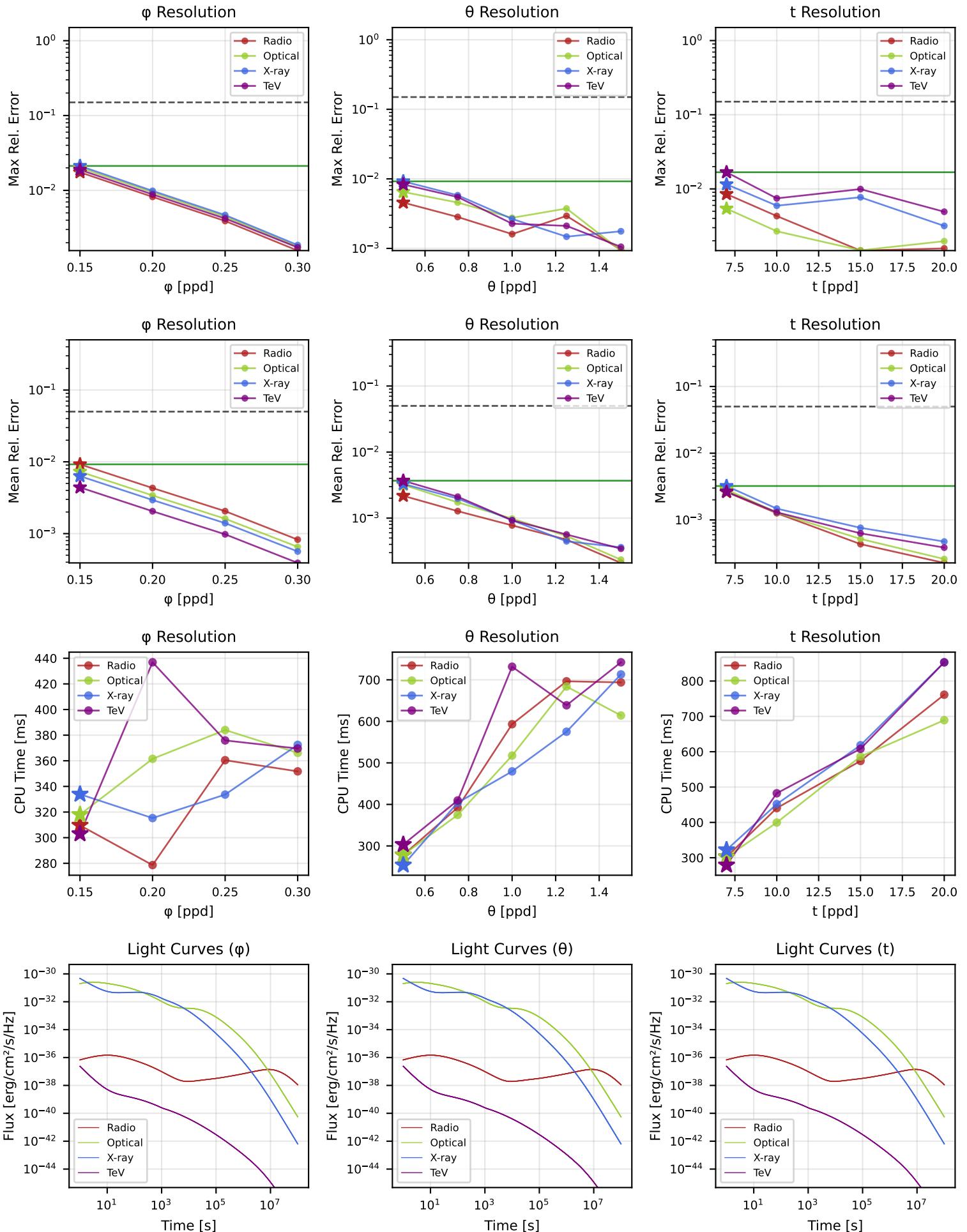
[PASS]

#125: powerlaw / wind / full_ssc / $\theta_v/\theta_c=2.0$



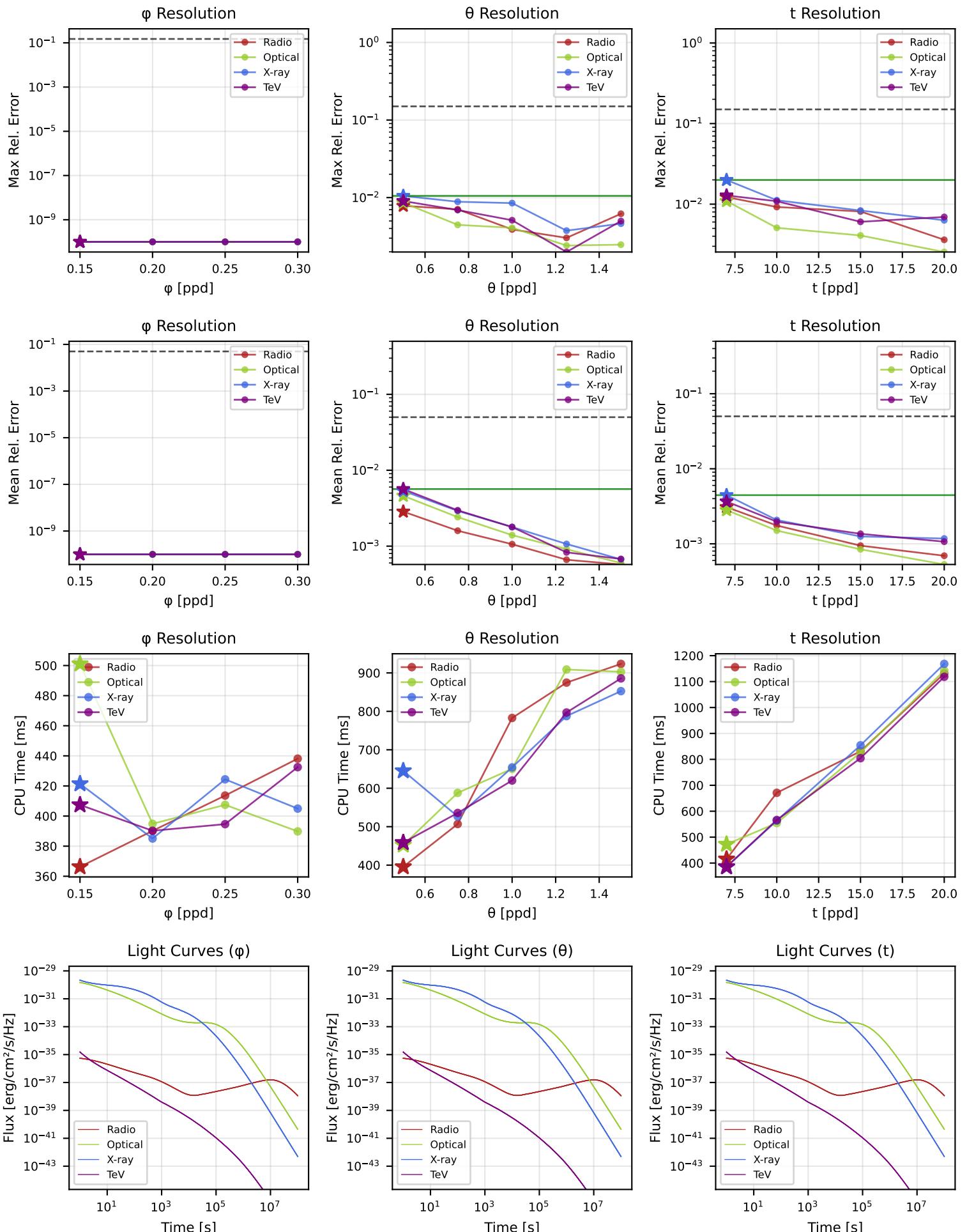
[PASS]

#126: powerlaw / wind / full_ssc / $\theta_v/\theta_c=4.0$



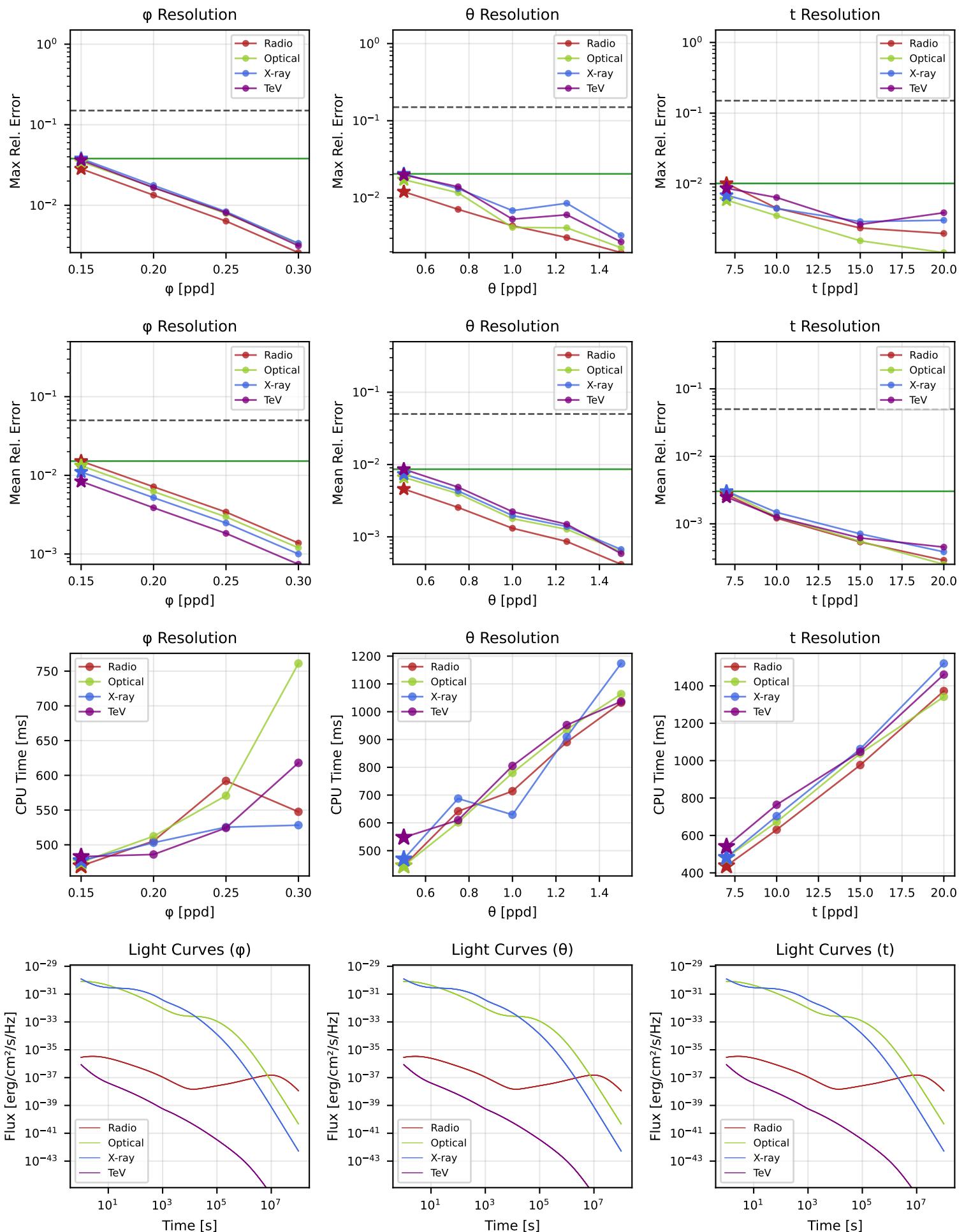
[PASS]

#127: powerlaw / wind / ssc_kn / $\theta_v/\theta_c=0.0$



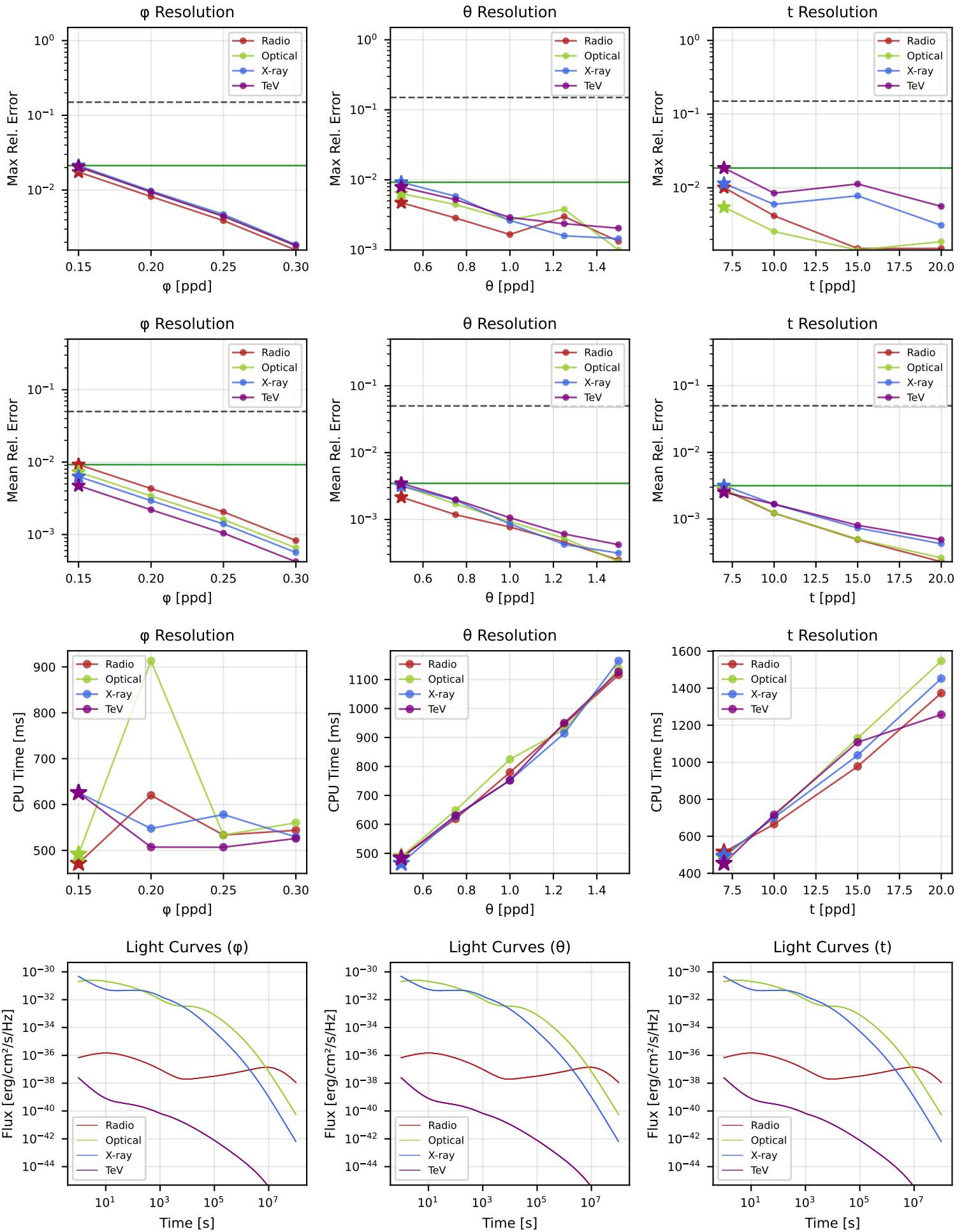
[PASS]

#128: powerlaw / wind / ssc_kn / $\theta_v/\theta_c=2.0$



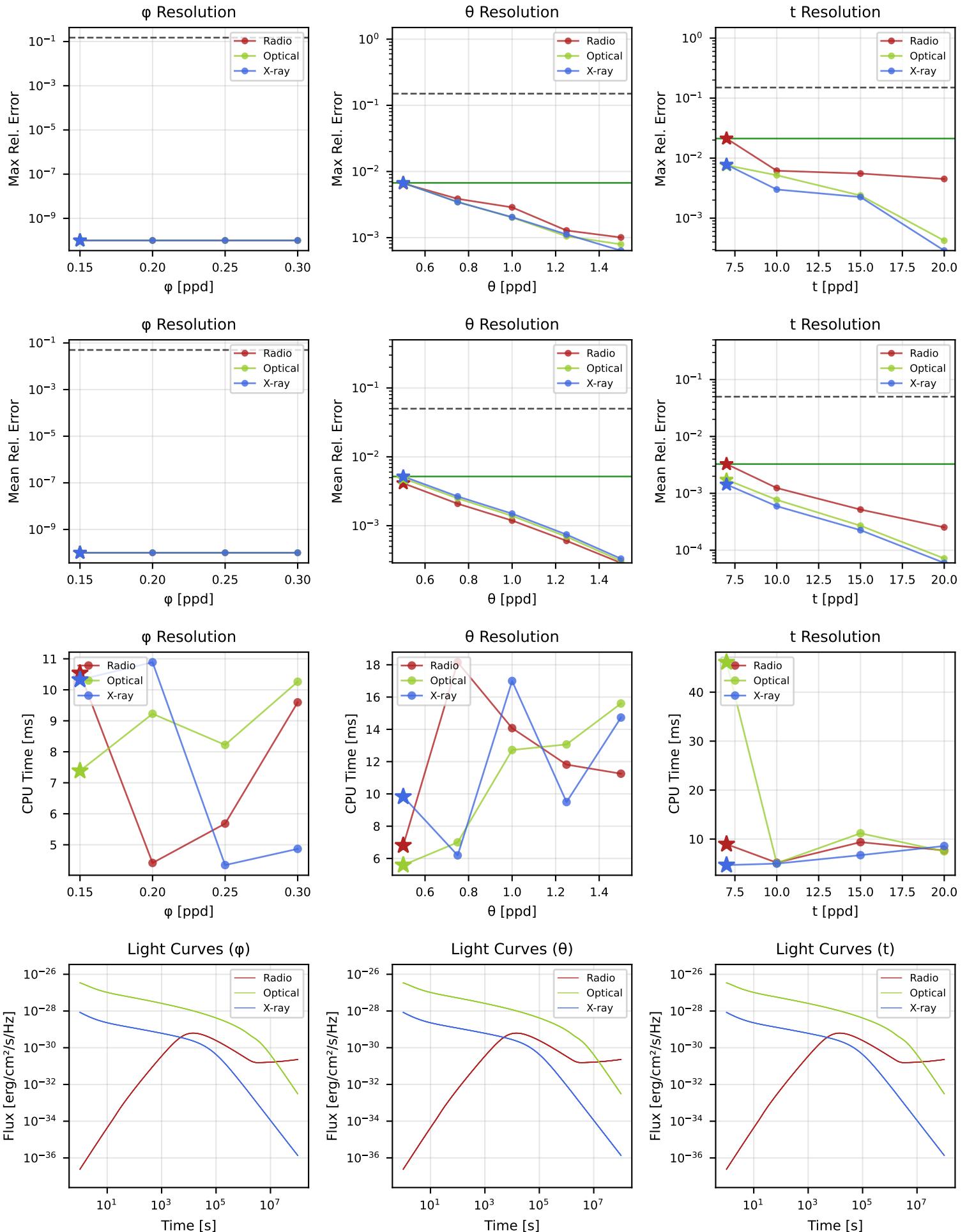
[PASS]

#129: powerlaw / wind / ssc_kn / $\theta_v/\theta_c=4.0$



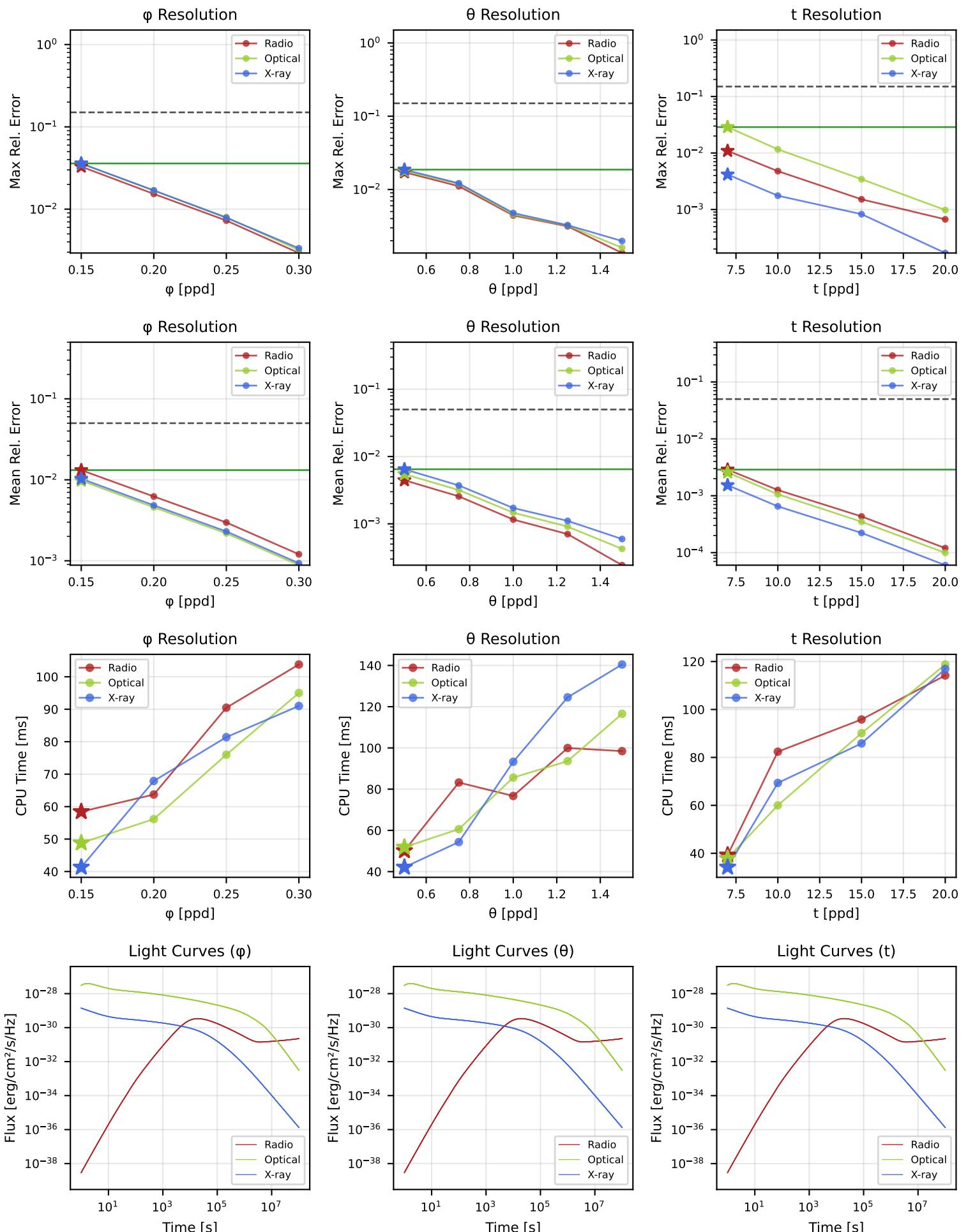
[PASS]

#130: powerlaw / wind / fast_cooling / $\theta_v/\theta_c=0.0$



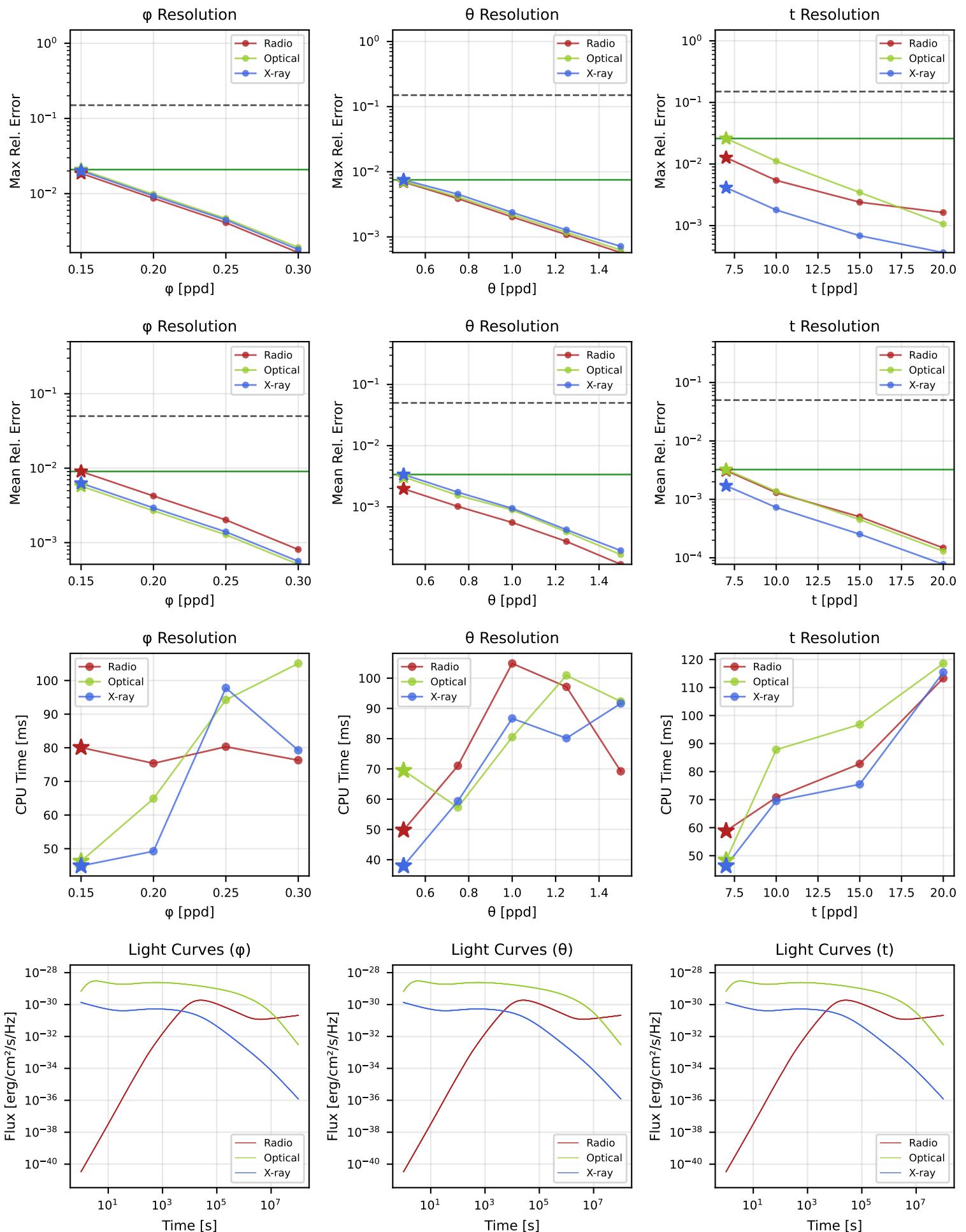
[PASS]

#131: powerlaw / wind / fast_cooling / $\theta_v/\theta_c=2.0$



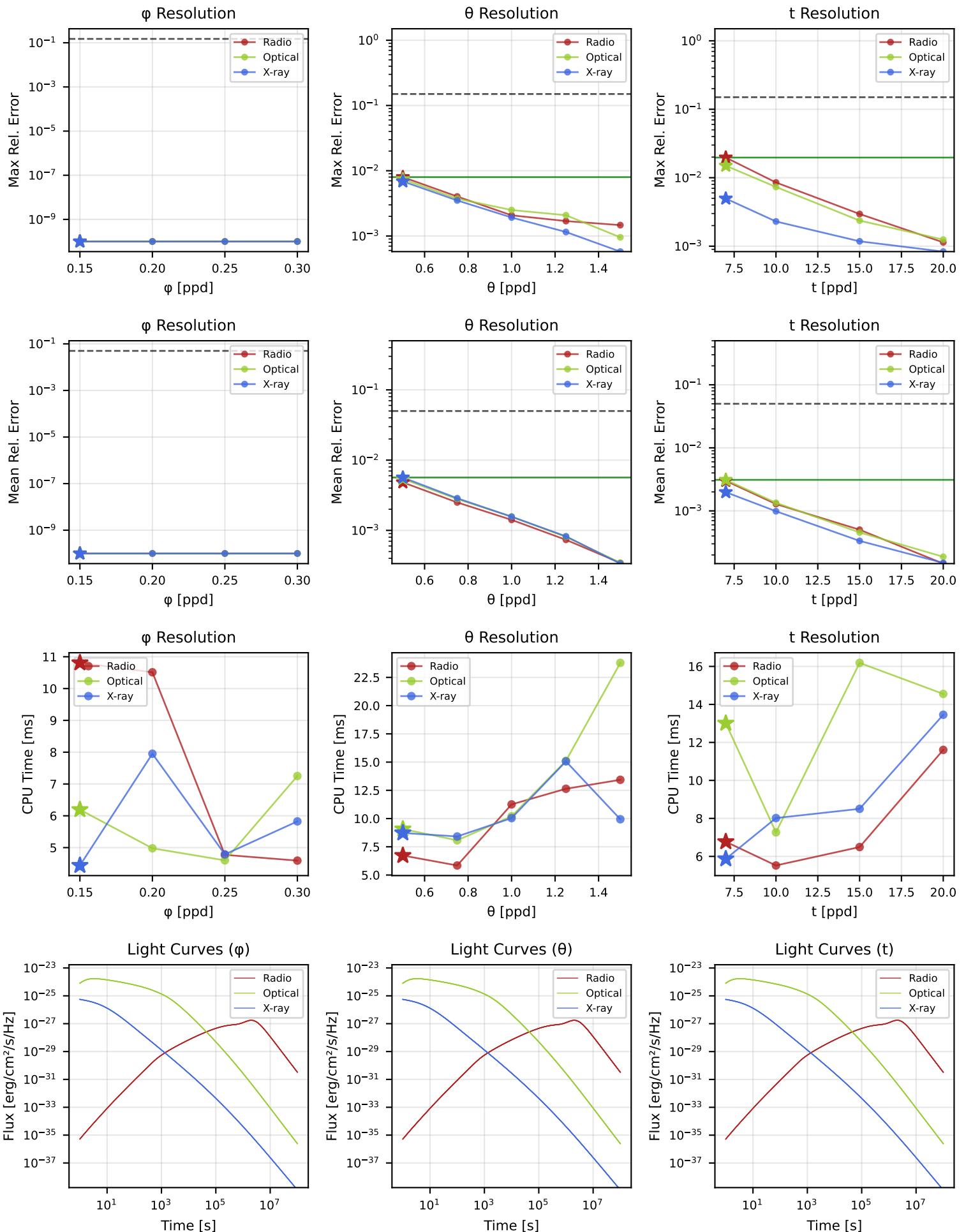
[PASS]

#132: powerlaw / wind / fast_cooling / $\theta_v/\theta_c=4.0$



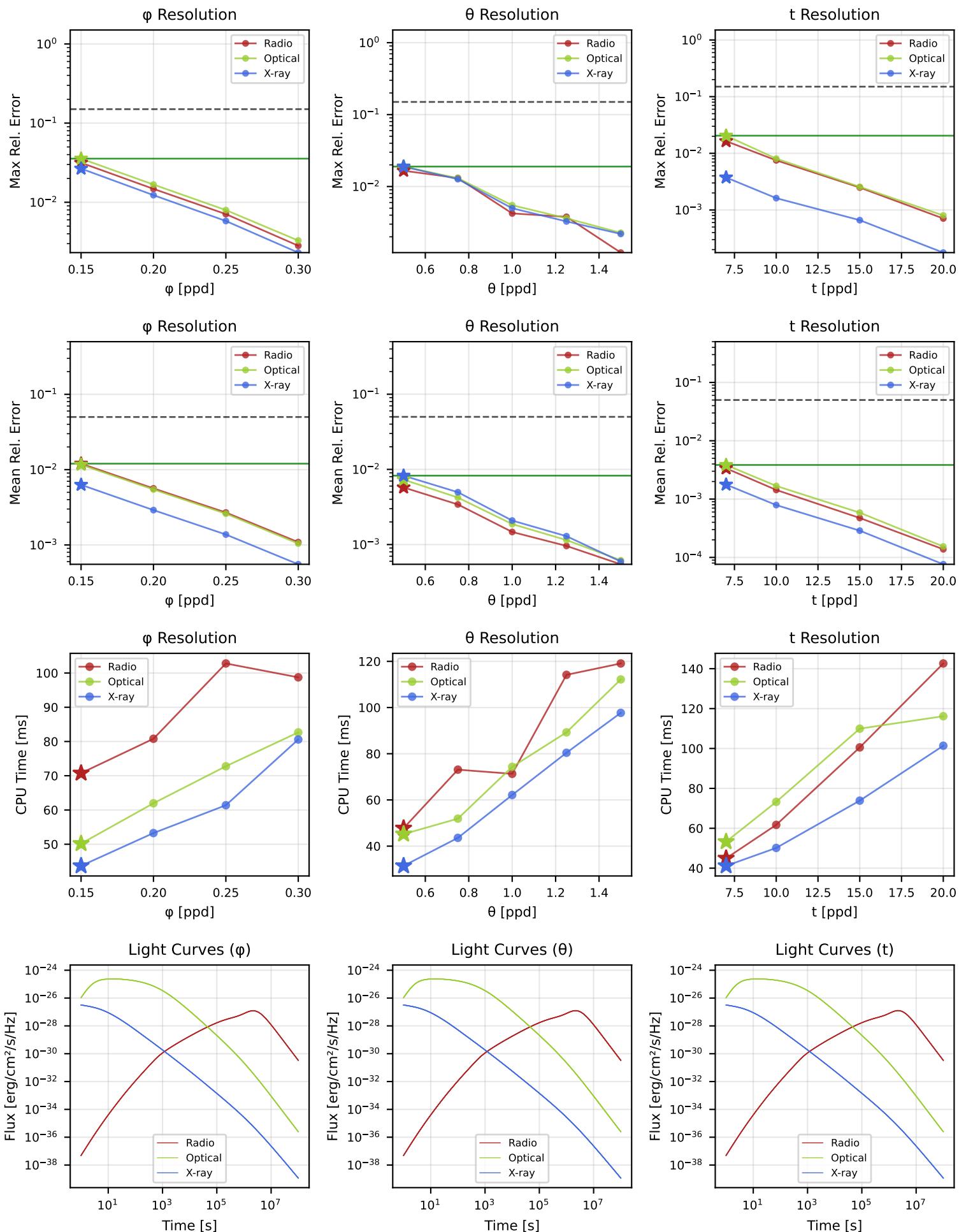
[PASS]

#133: powerlaw / wind / steep_spectrum / $\theta_v/\theta_c=0.0$



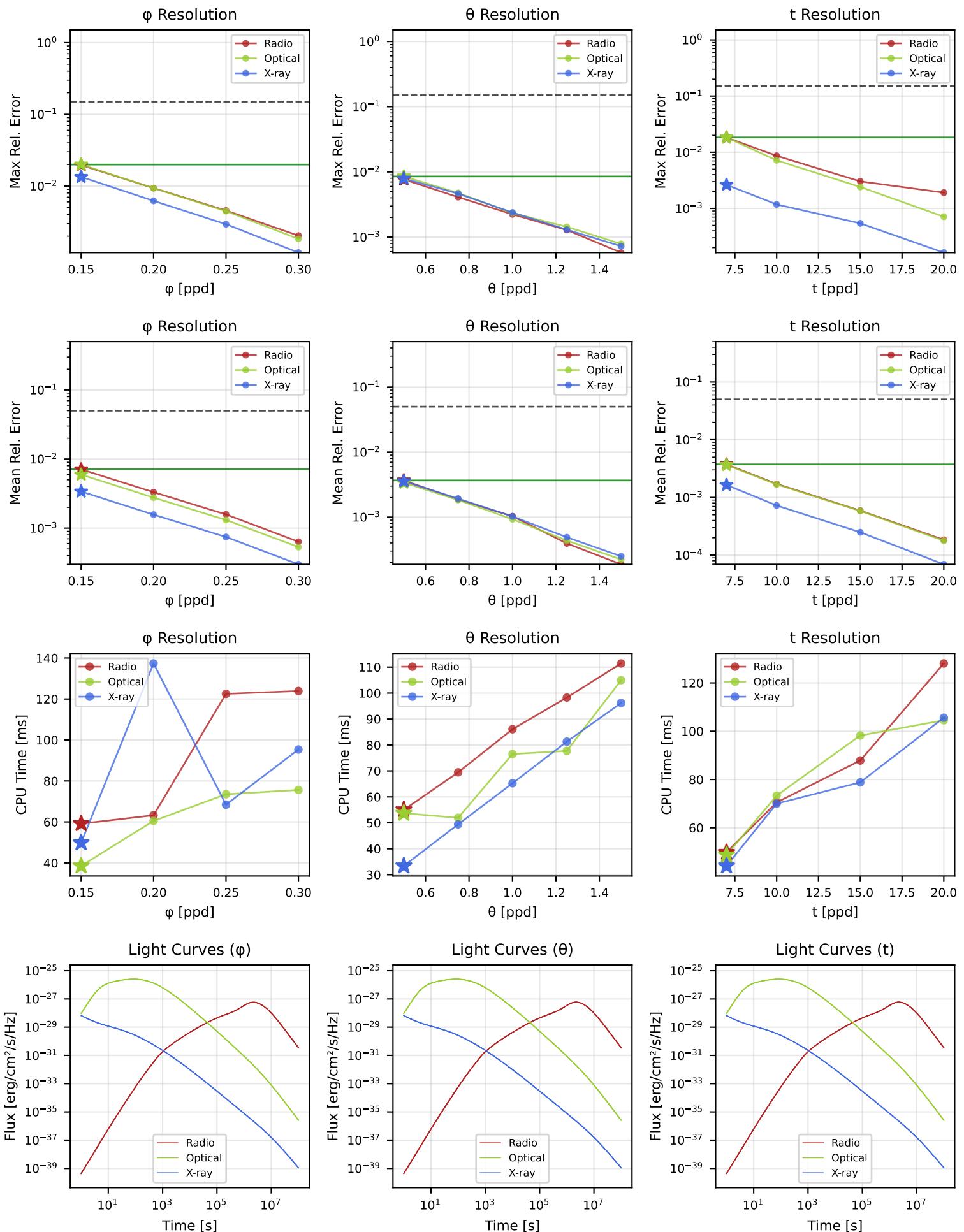
[PASS]

#134: powerlaw / wind / steep_spectrum / $\theta_v/\theta_c=2.0$



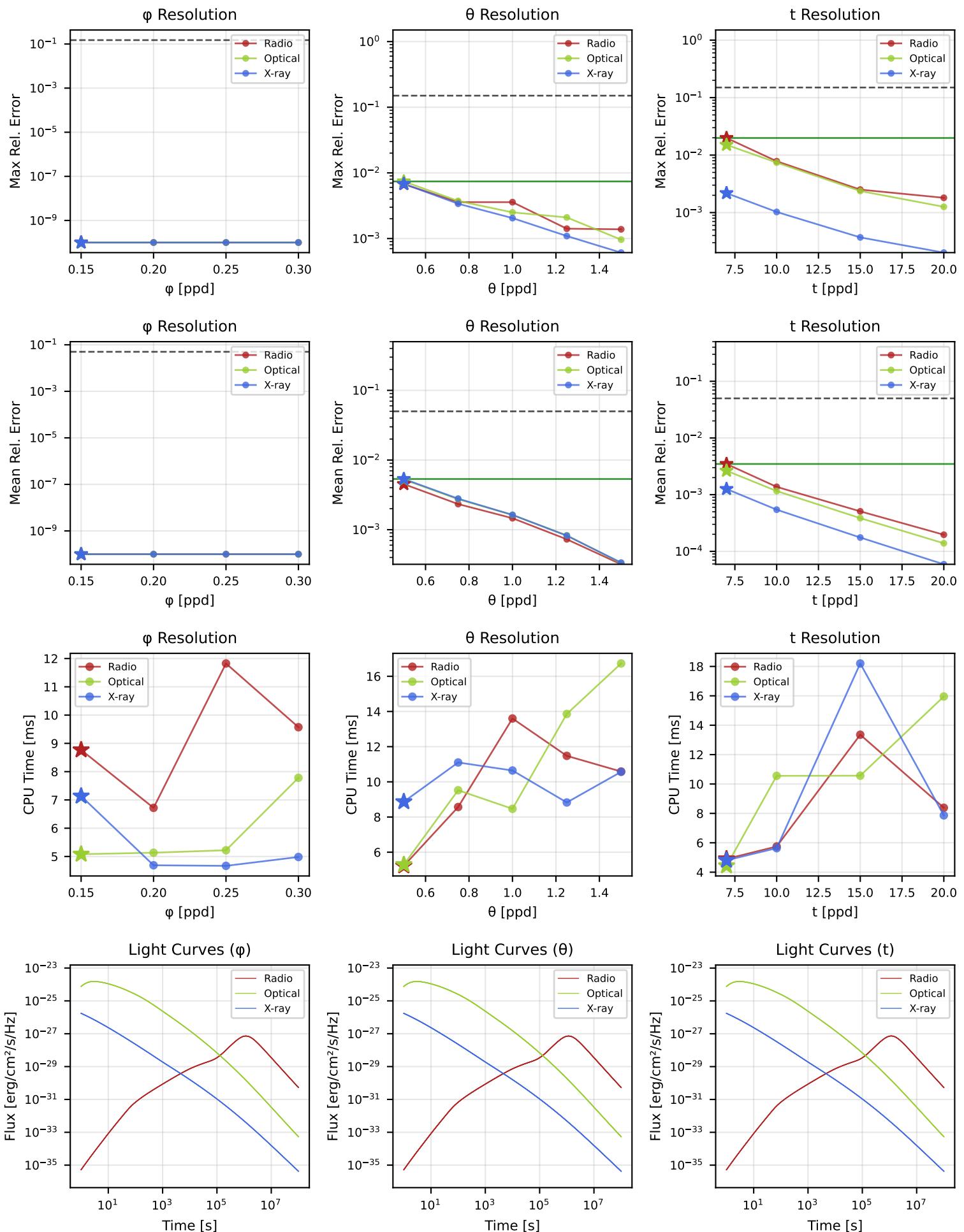
[PASS]

#135: powerlaw / wind / steep_spectrum / $\theta_v/\theta_c=4.0$



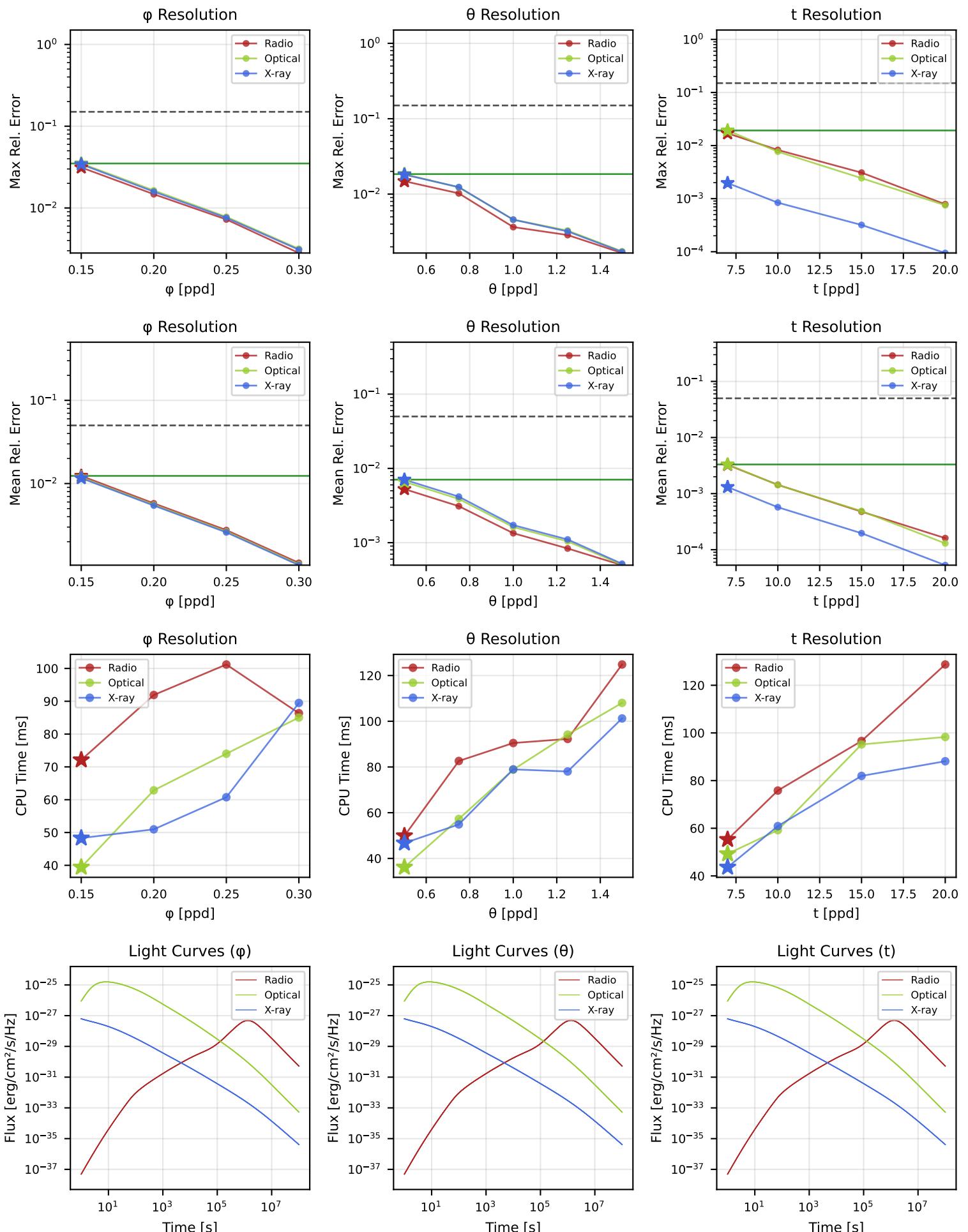
[PASS]

#136: powerlaw / wind / flat_spectrum / $\theta_v/\theta_c=0.0$



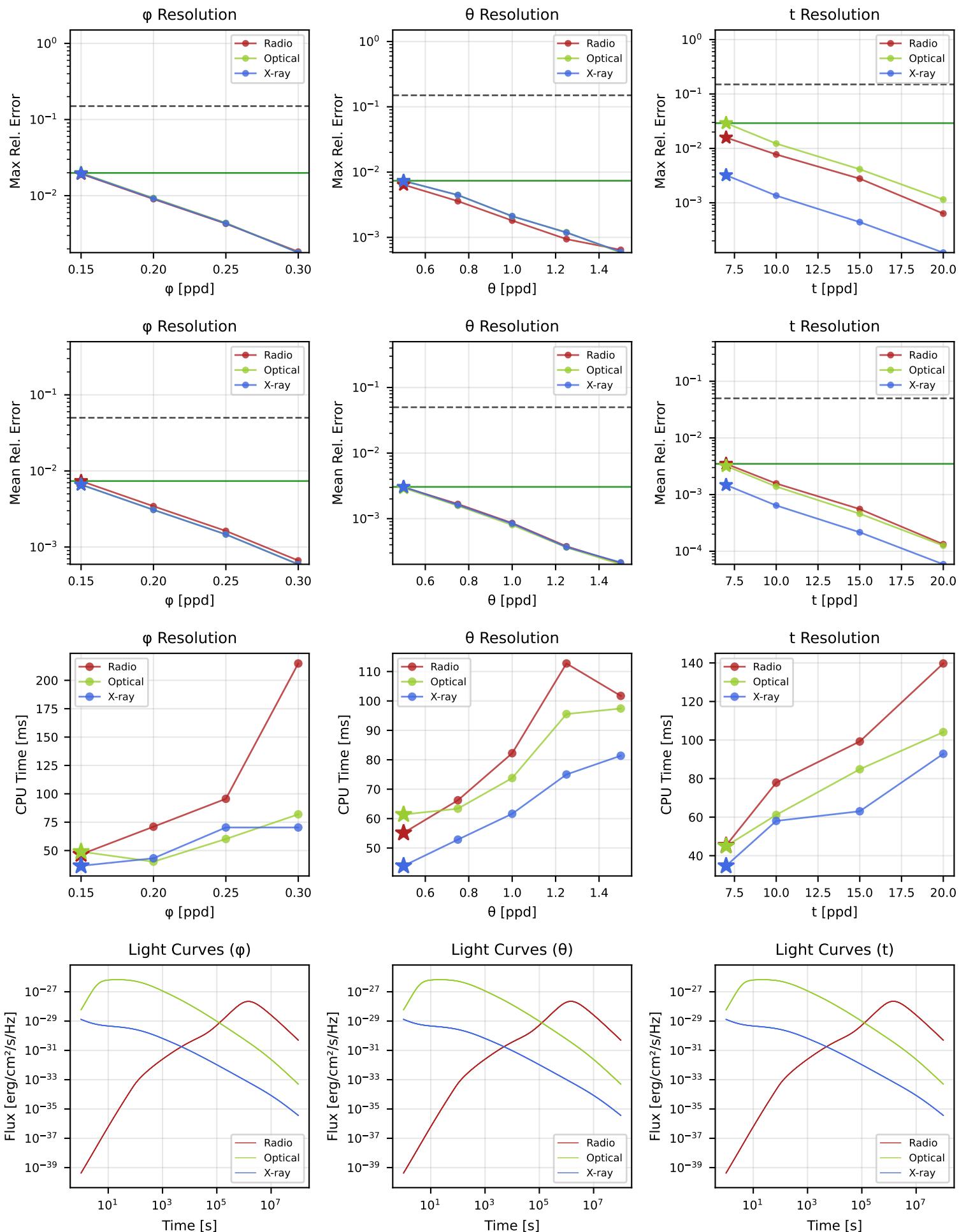
[PASS]

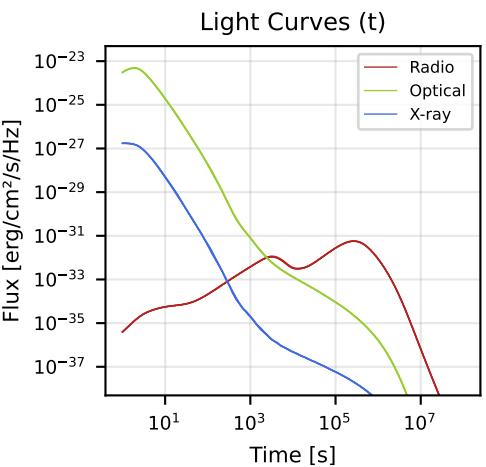
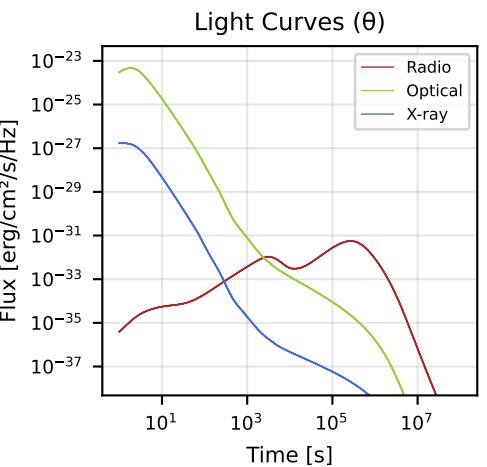
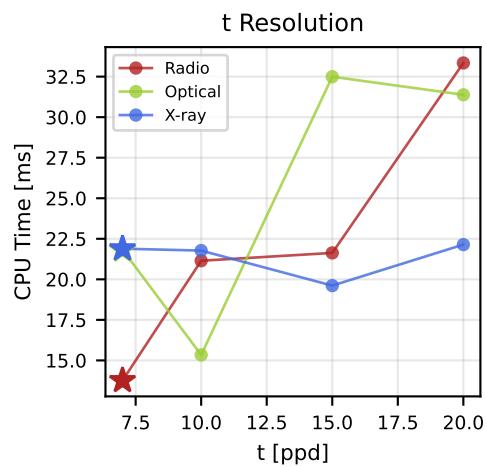
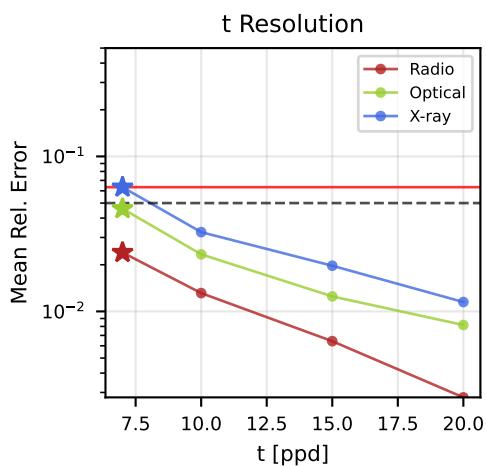
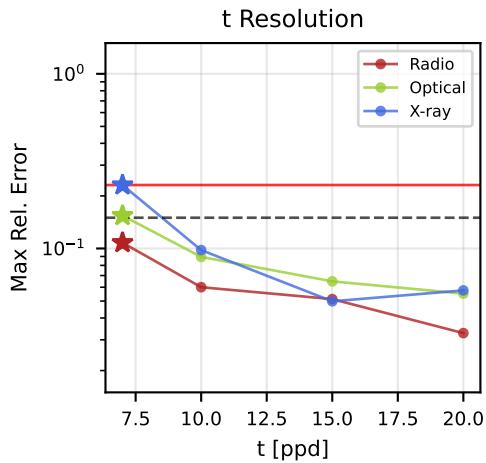
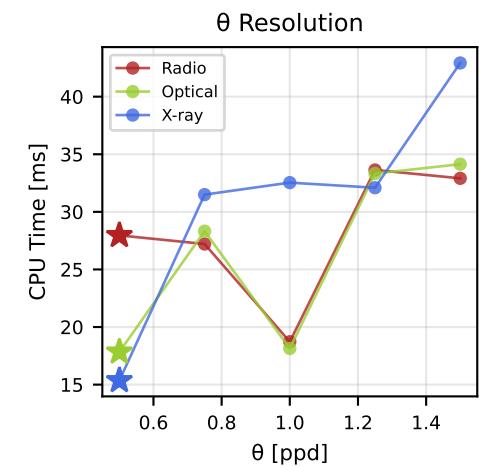
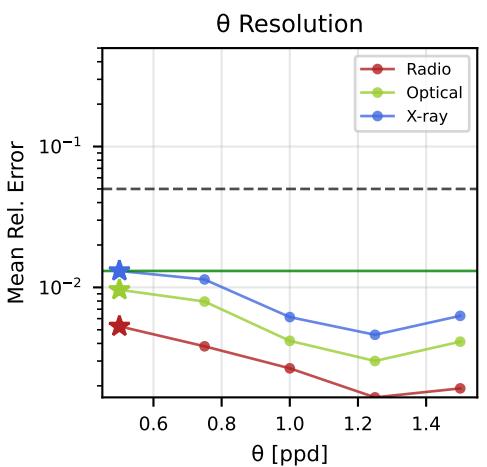
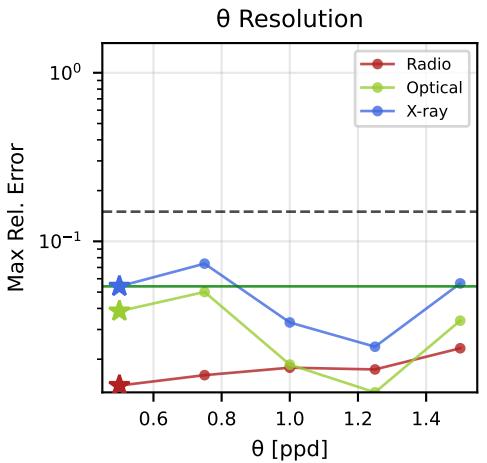
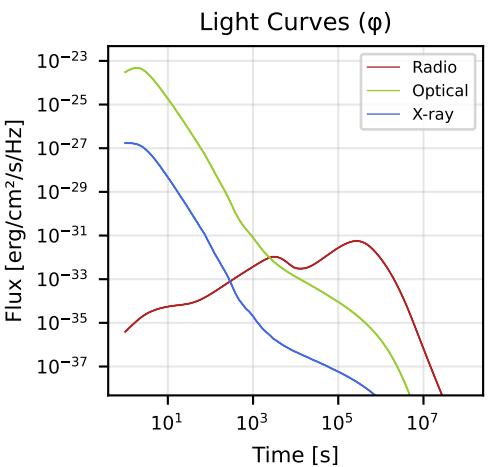
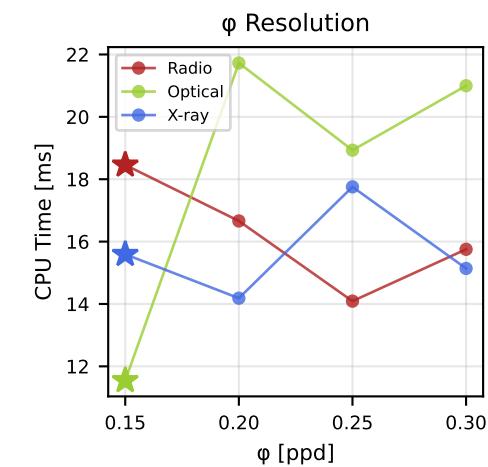
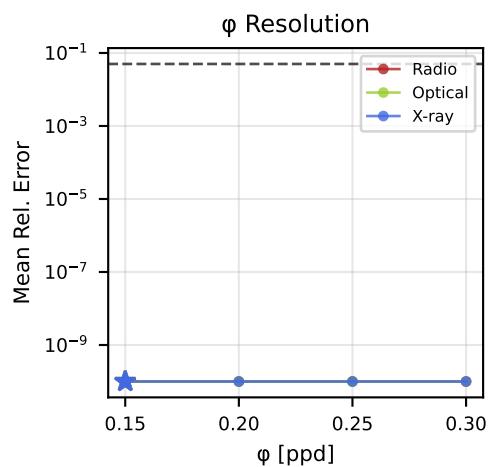
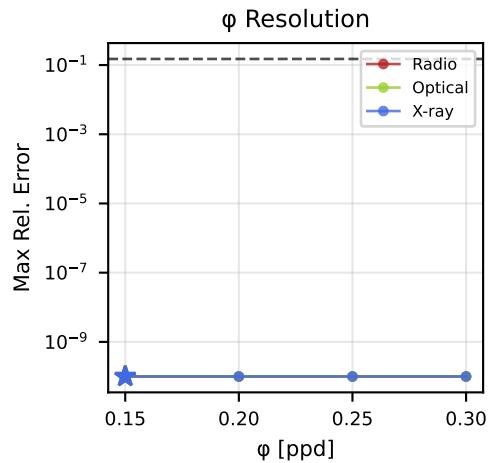
#137: powerlaw / wind / flat_spectrum / $\theta_v/\theta_c=2.0$



[PASS]

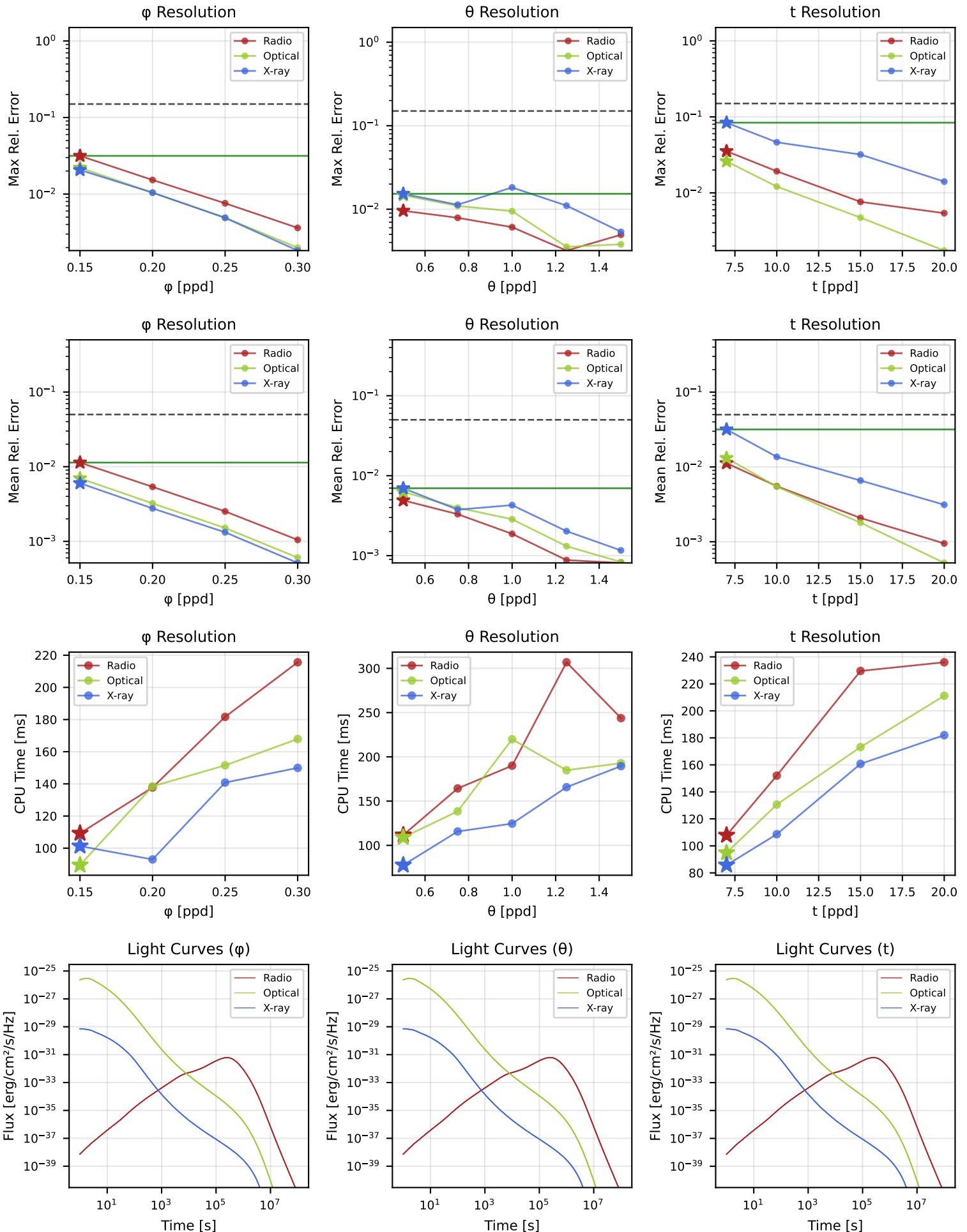
#138: powerlaw / wind / flat_spectrum / $\theta_v/\theta_c=4.0$



[FAIL]#139: powerlaw / wind / rvs_sync_thin / $\theta_v/\theta_c=0.0$ 

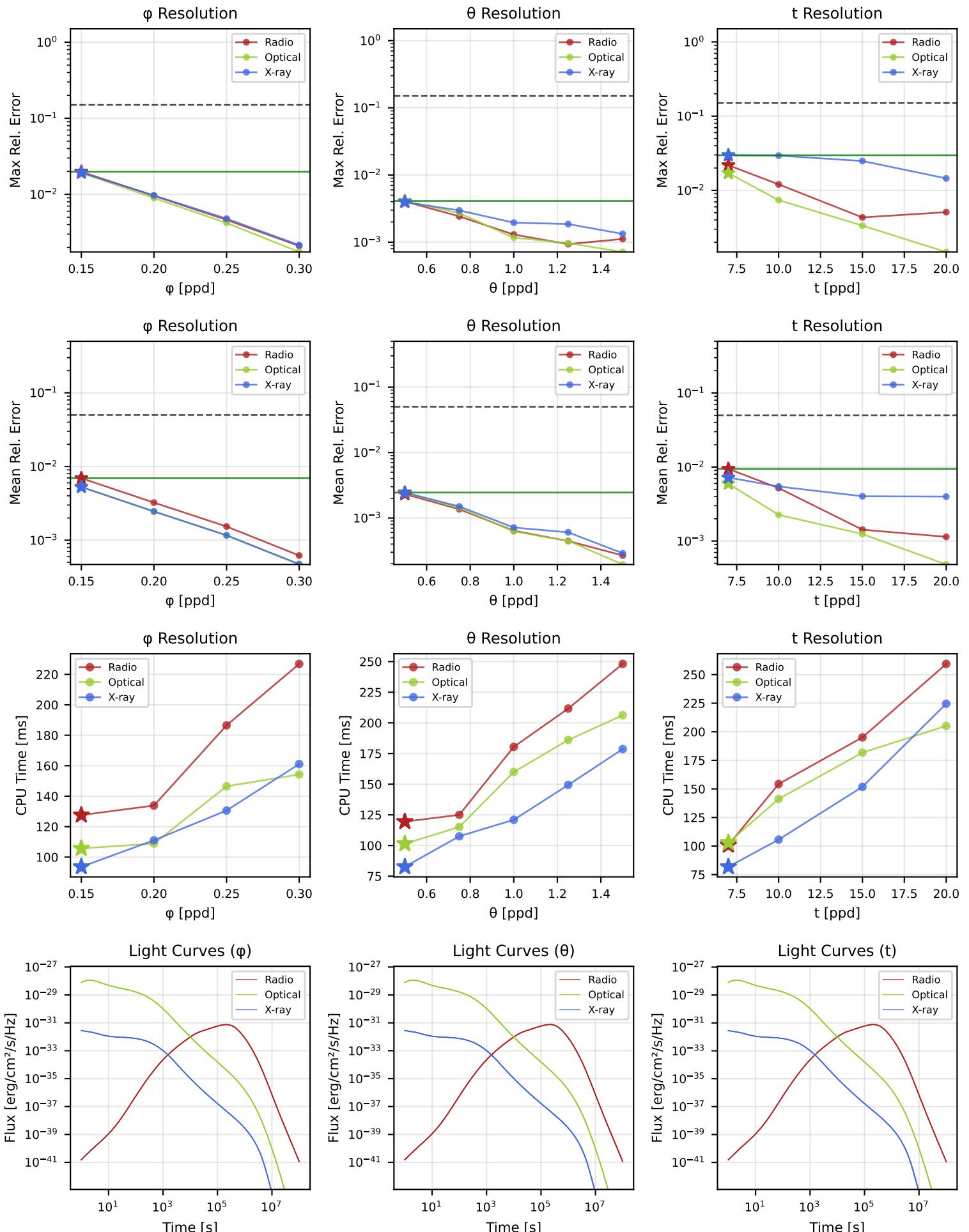
[PASS]

#140: powerlaw / wind / rvs_sync_thin / $\theta_v/\theta_c=2.0$



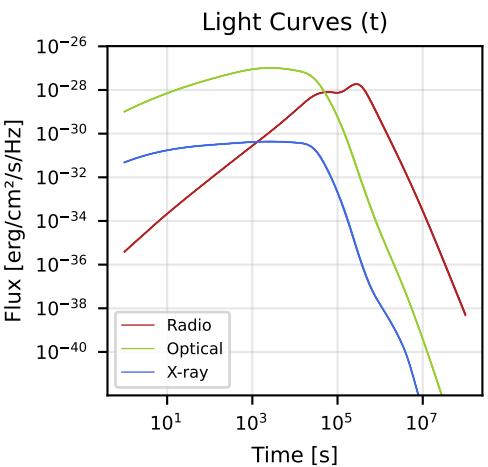
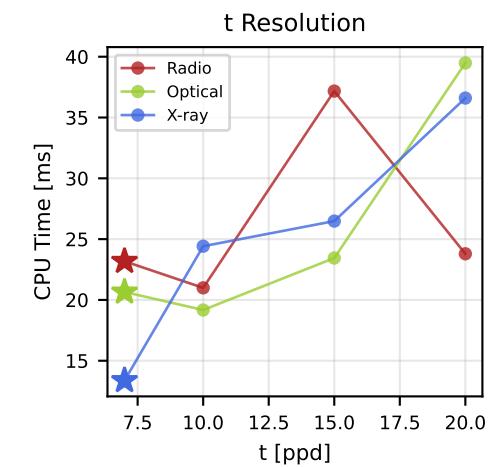
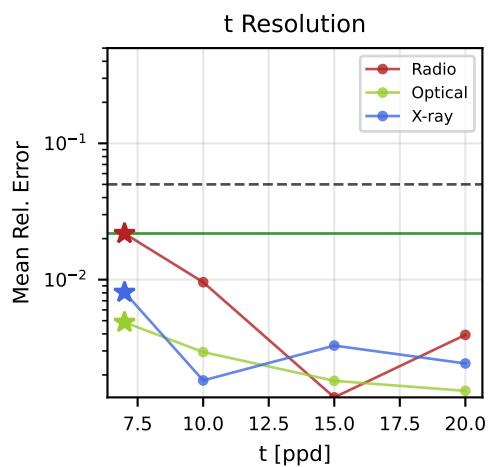
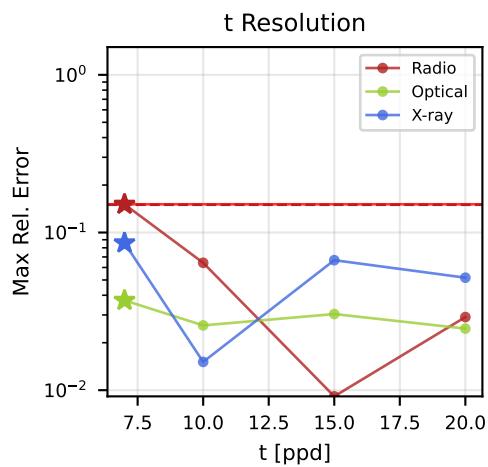
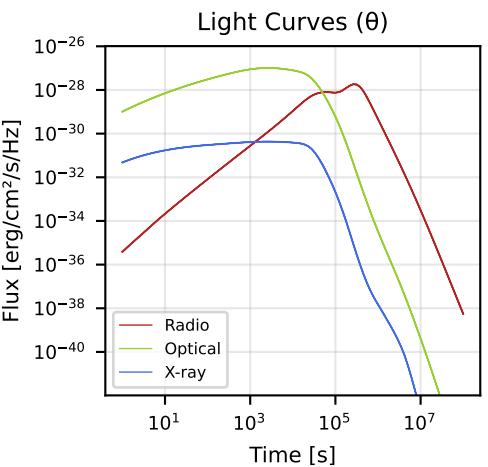
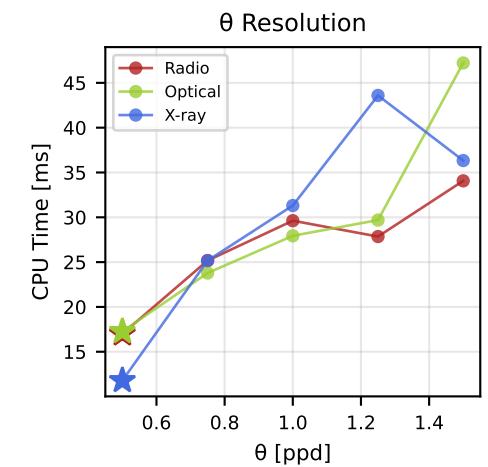
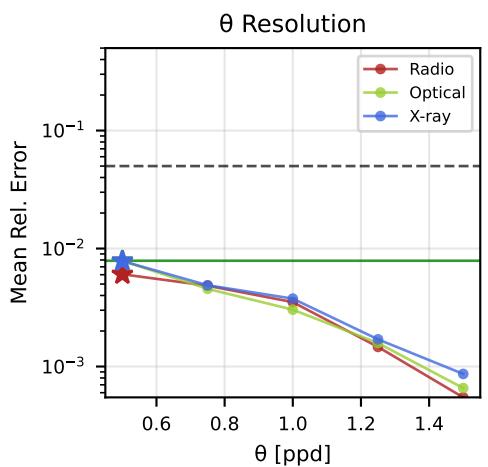
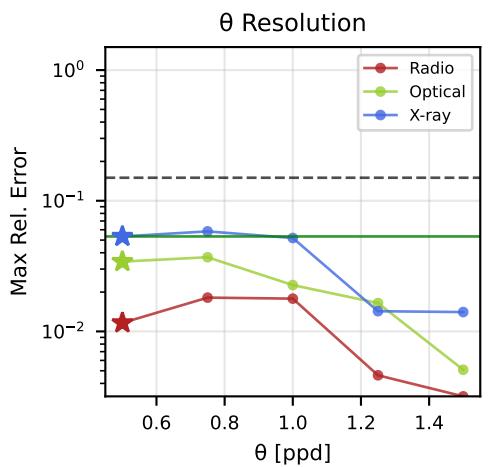
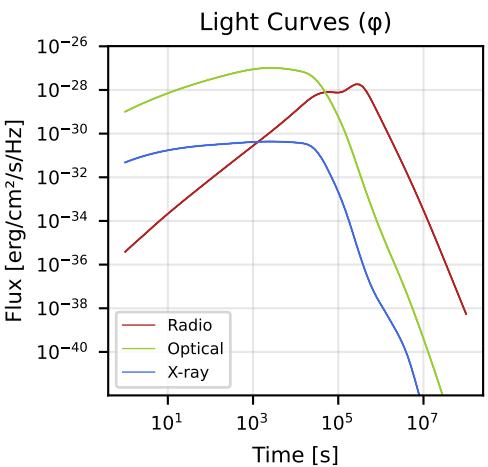
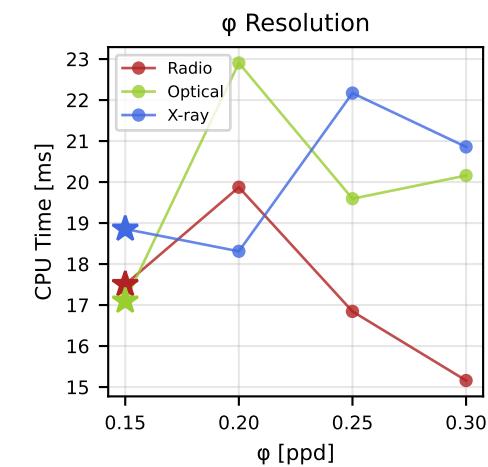
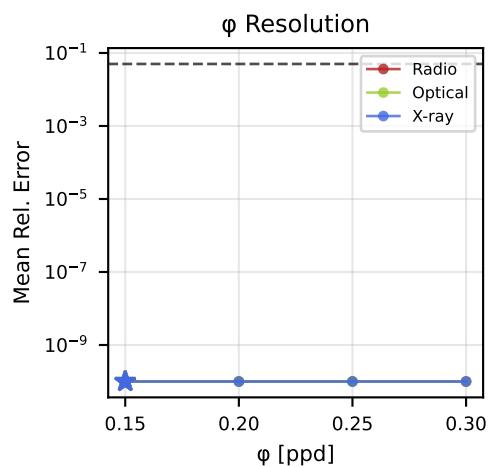
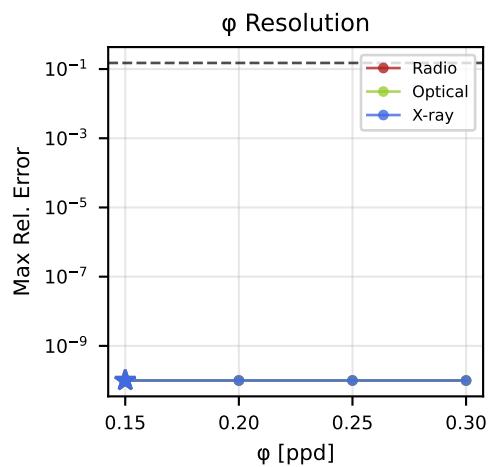
[PASS]

#141: powerlaw / wind / rvs_sync_thin / $\theta_v/\theta_c=4.0$



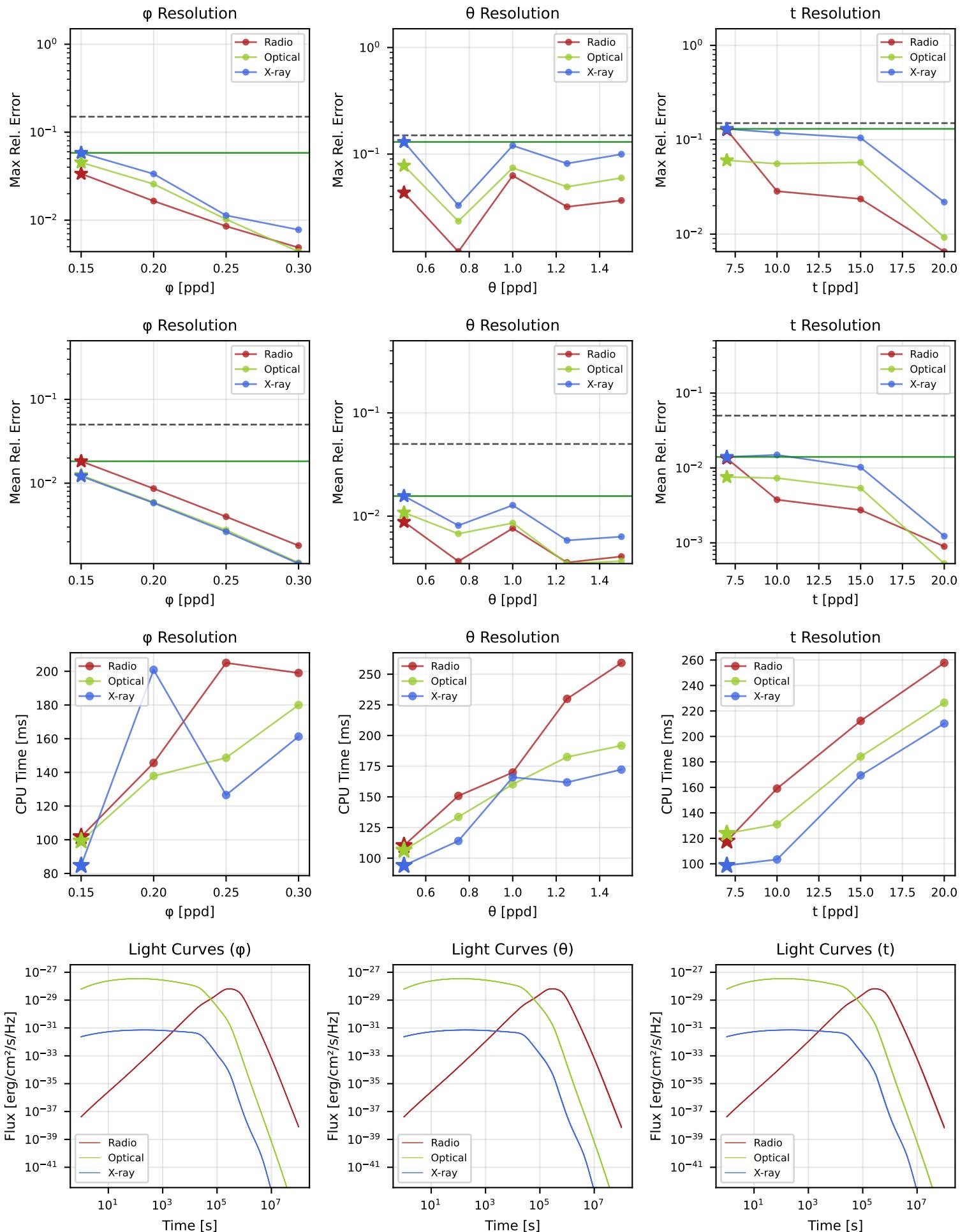
[ACCEPTABLE]

#142: powerlaw / wind / rvs_sync_thick / $\theta_v/\theta_c=0.0$

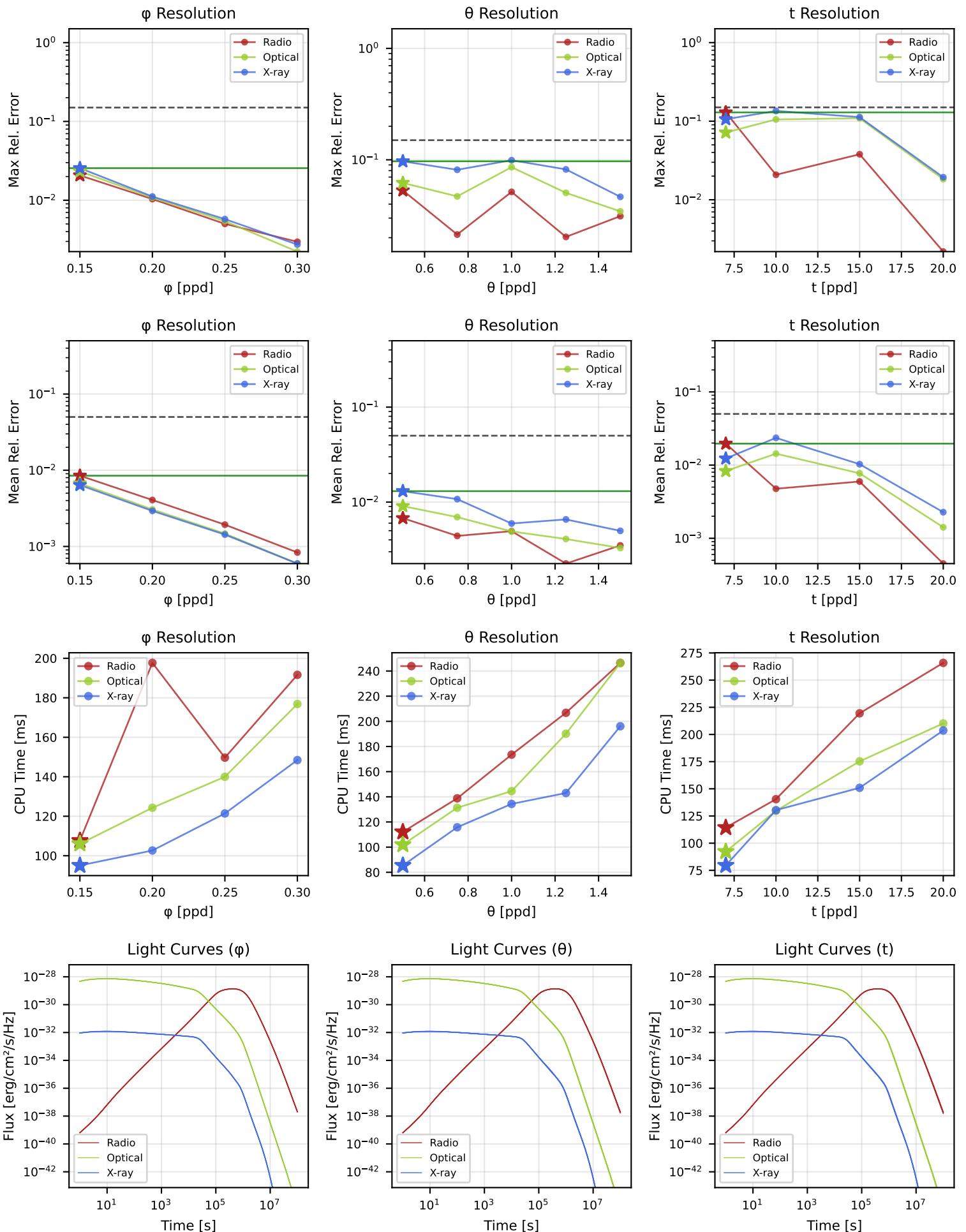


[PASS]

#143: powerlaw / wind / rvs_sync_thick / $\theta_v/\theta_c=2.0$

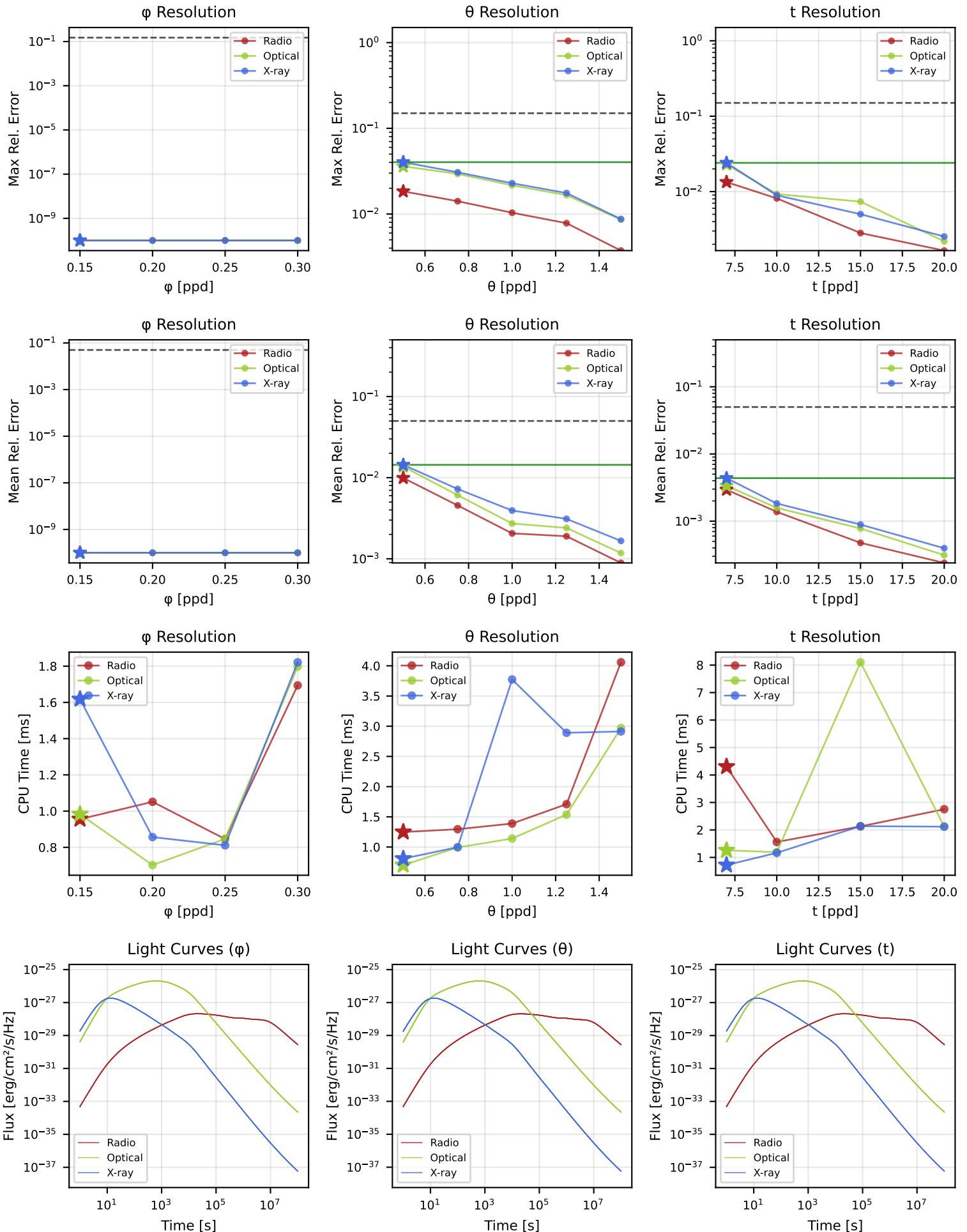


[PASS]

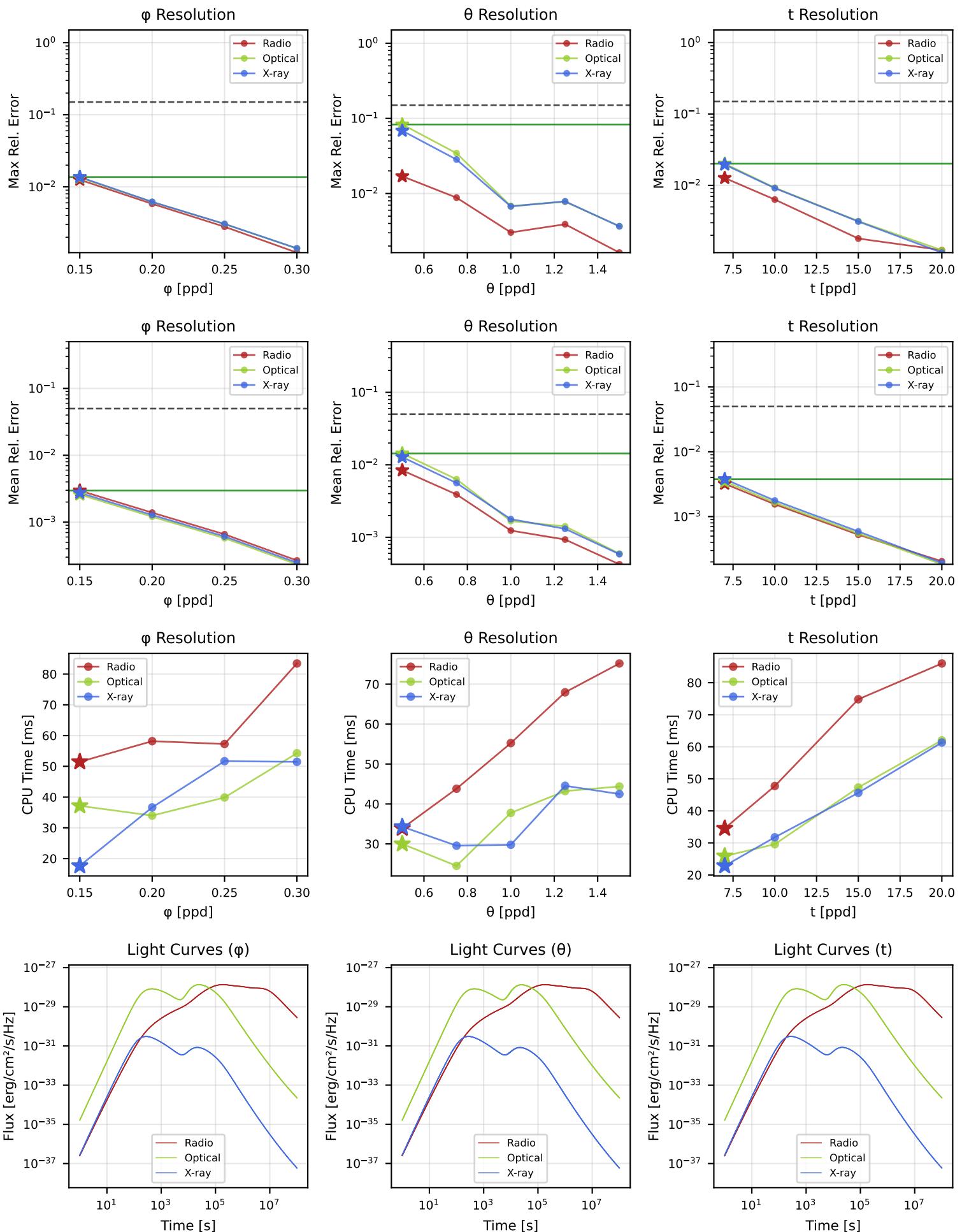
#144: powerlaw / wind / rvs_sync_thick / $\theta_v/\theta_c=4.0$ 

[PASS]

#145: two_component / ISM / synchrotron / $\theta_v/\theta_c=0.0$

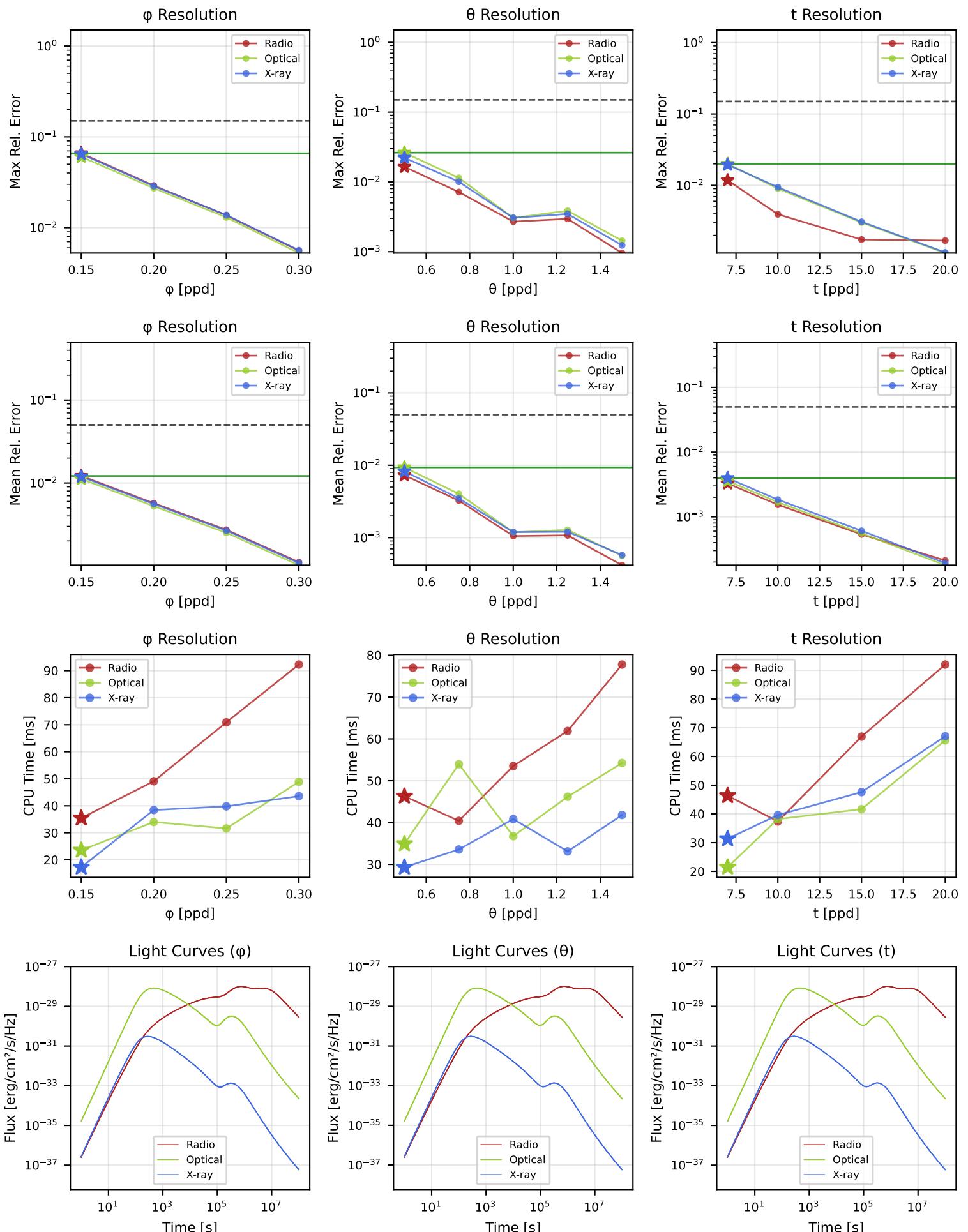


[PASS]

#146: two_component / ISM / synchrotron / $\theta_v/\theta_c=2.0$ 

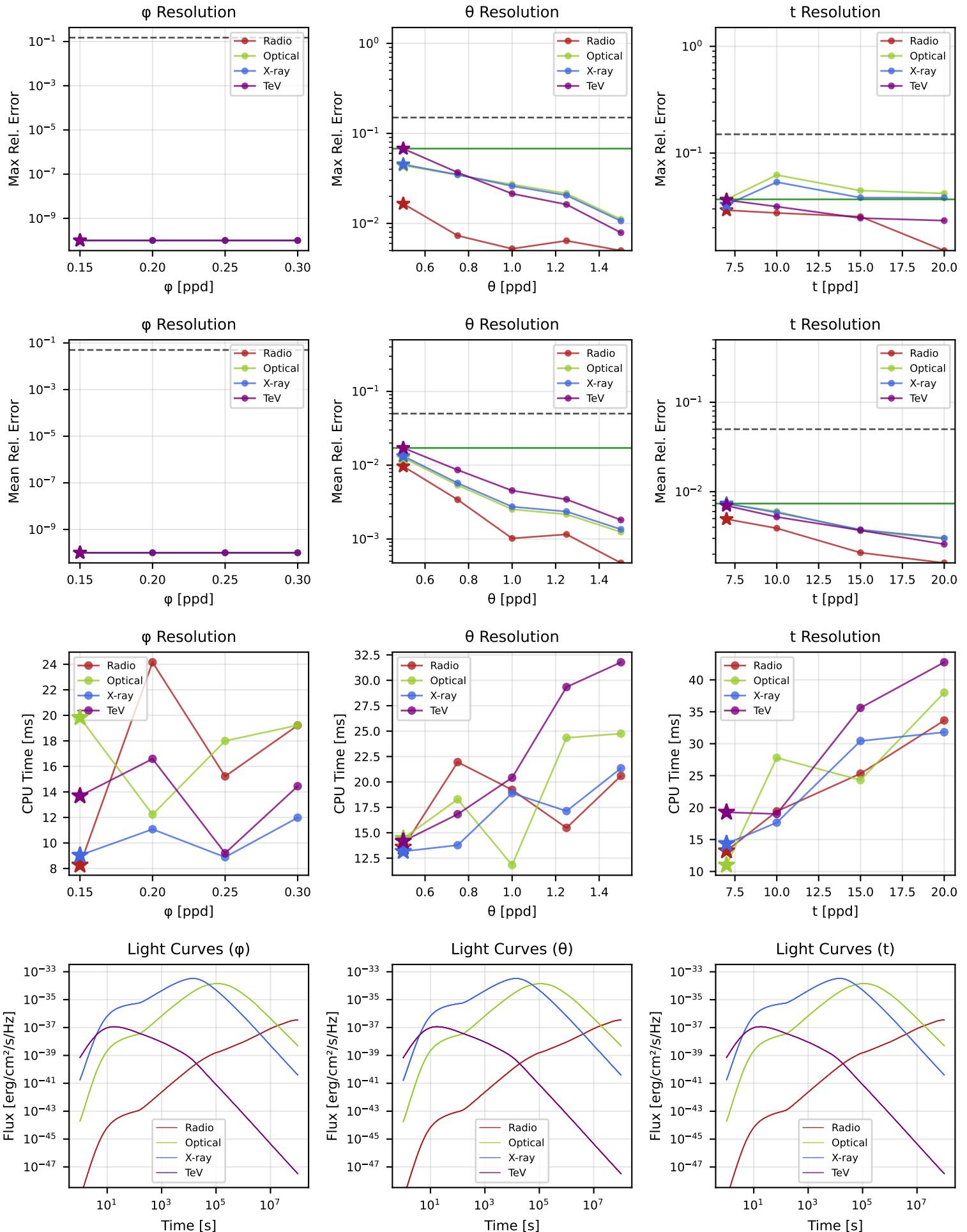
[PASS]

#147: two_component / ISM / synchrotron / $\theta_v/\theta_c=4.0$



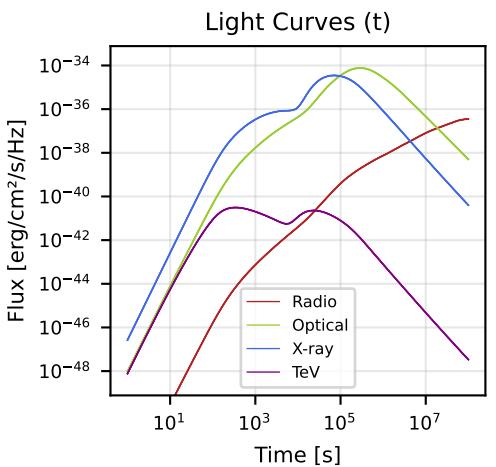
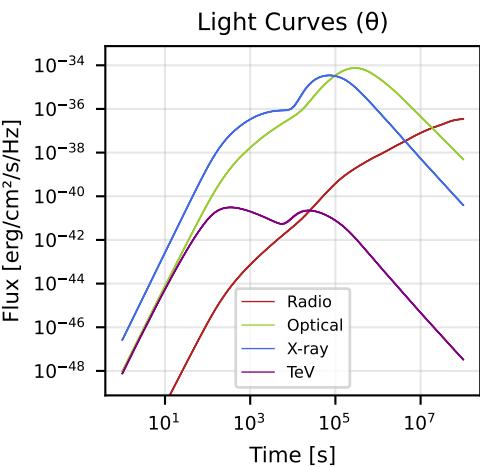
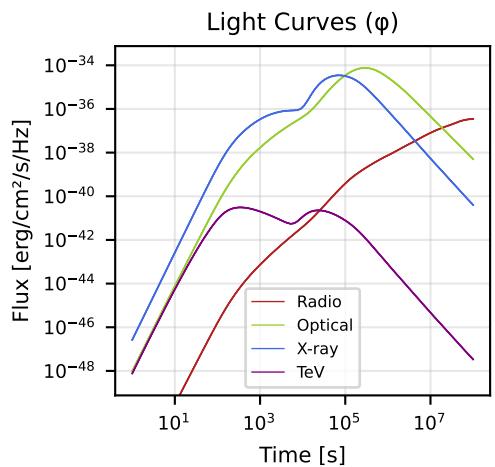
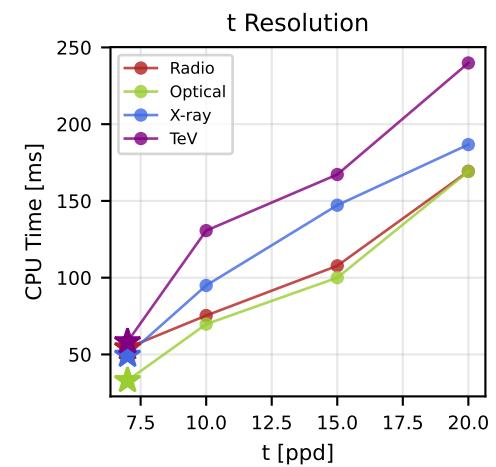
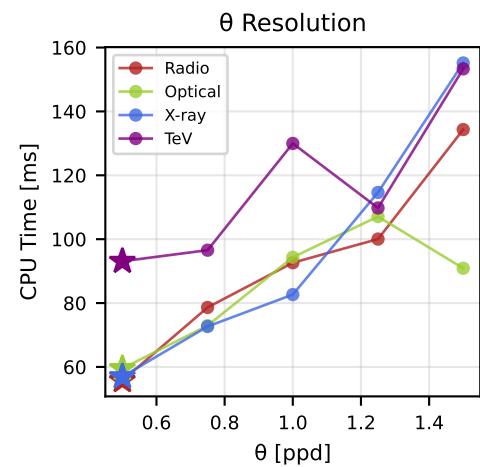
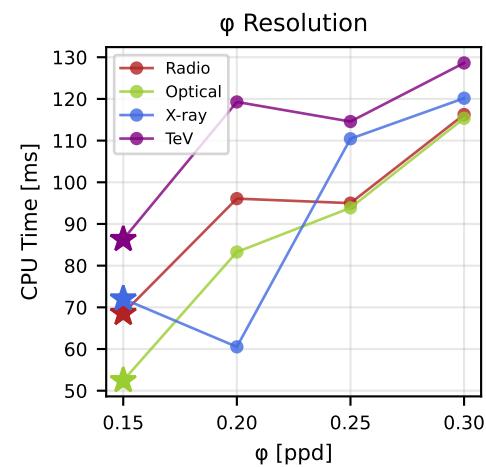
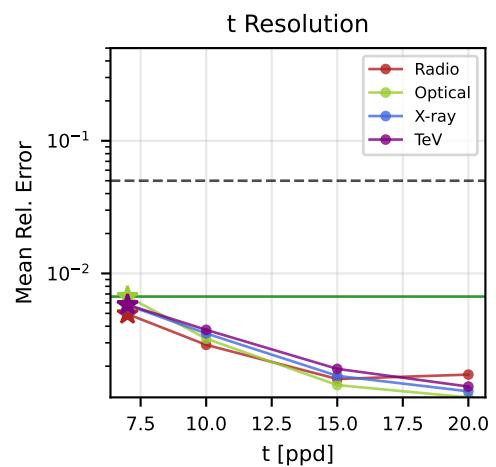
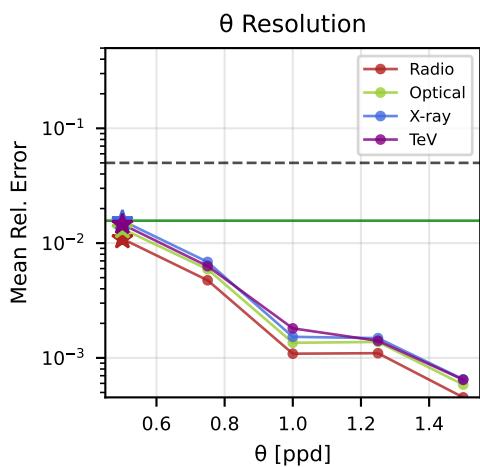
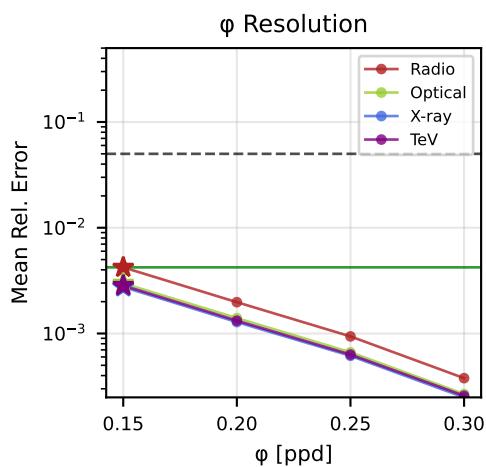
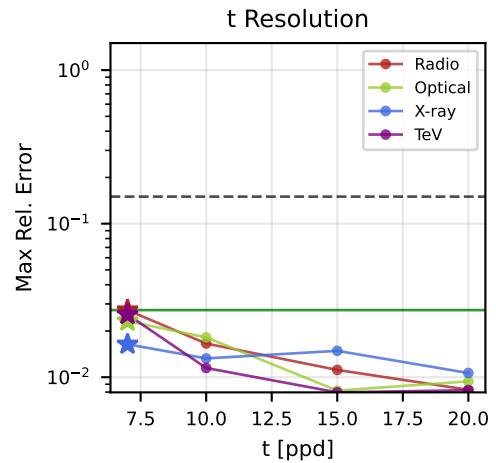
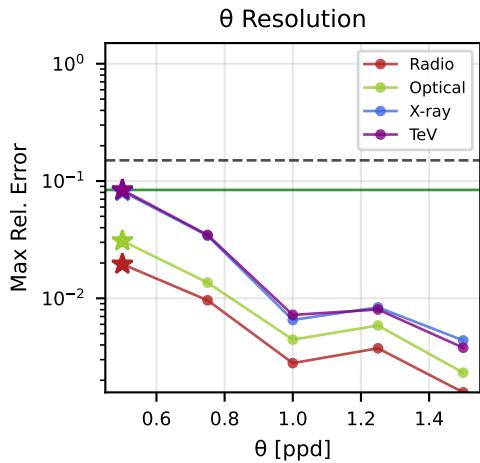
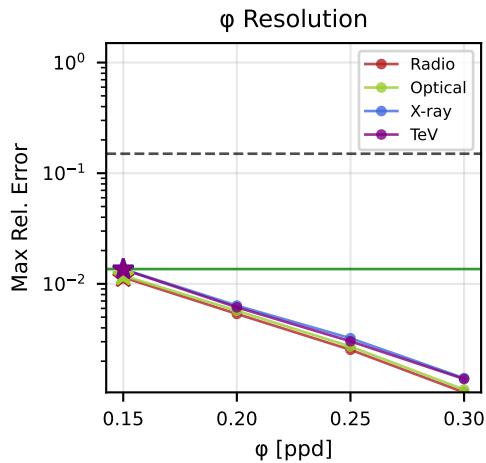
[PASS]

#148: two_component / ISM / full_ssc / $\theta_v/\theta_c=0.0$

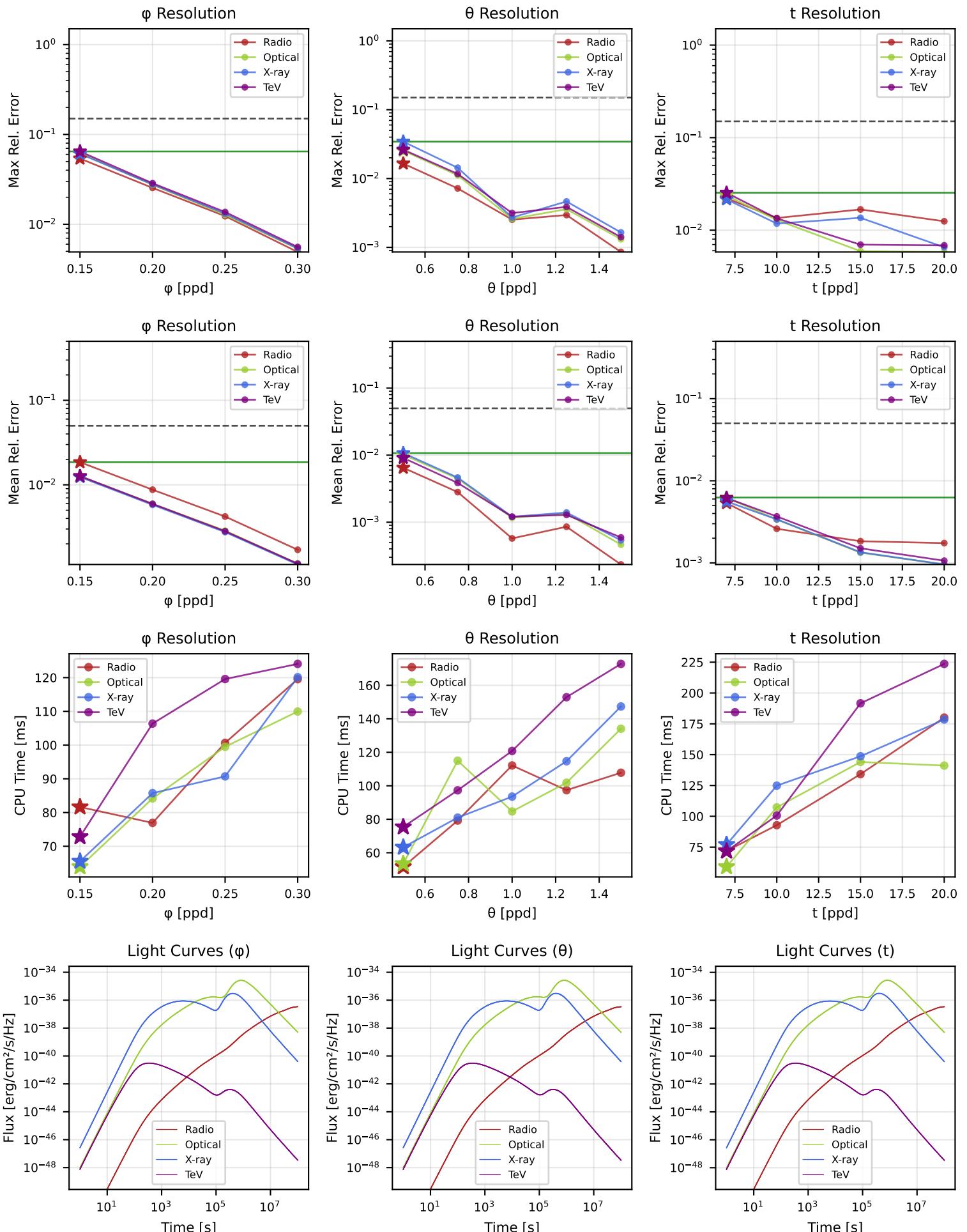


[PASS]

#149: two_component / ISM / full_ssc / $\theta_v/\theta_c=2.0$

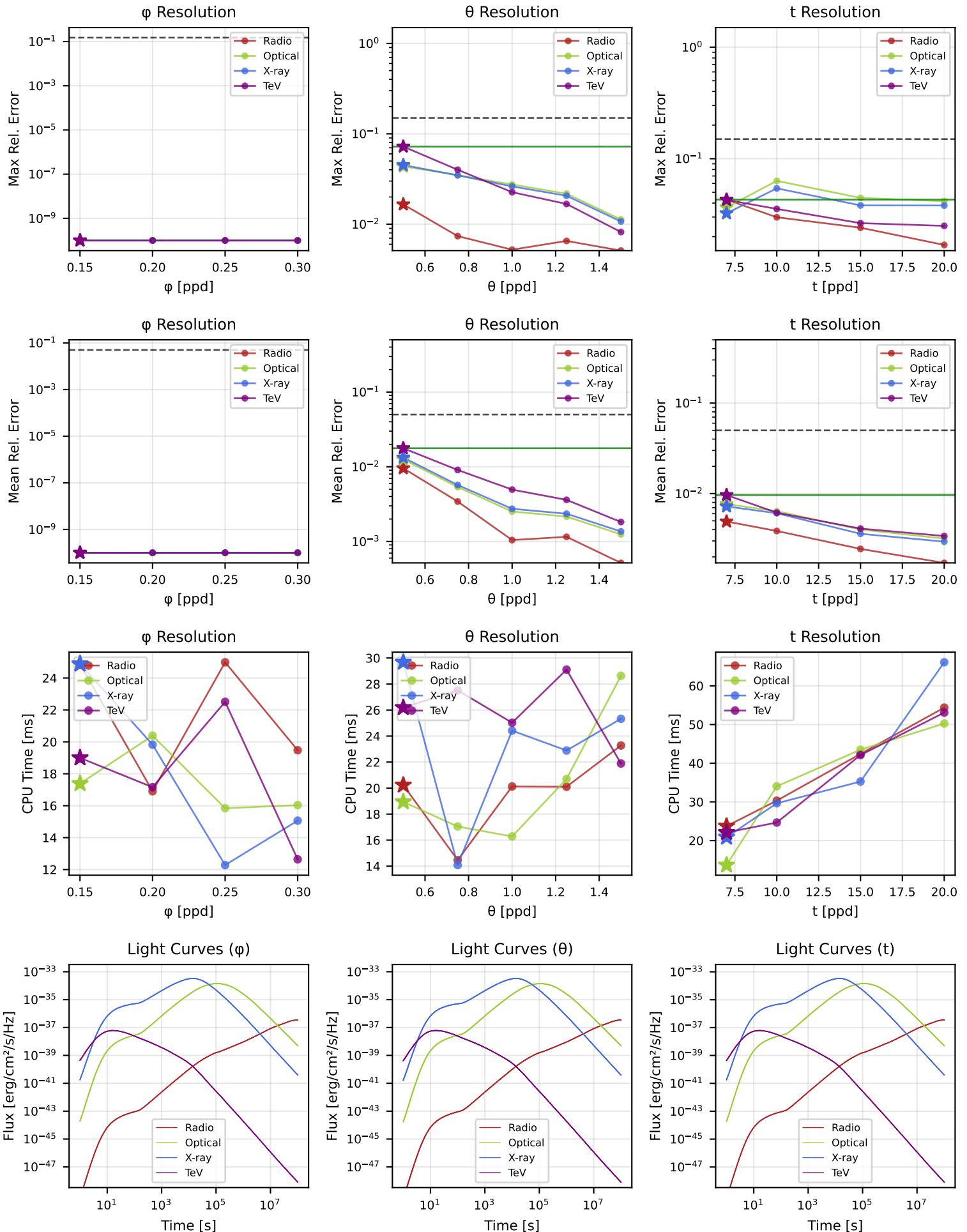


[PASS]

#150: two_component / ISM / full_ssc / $\theta_v/\theta_c=4.0$ 

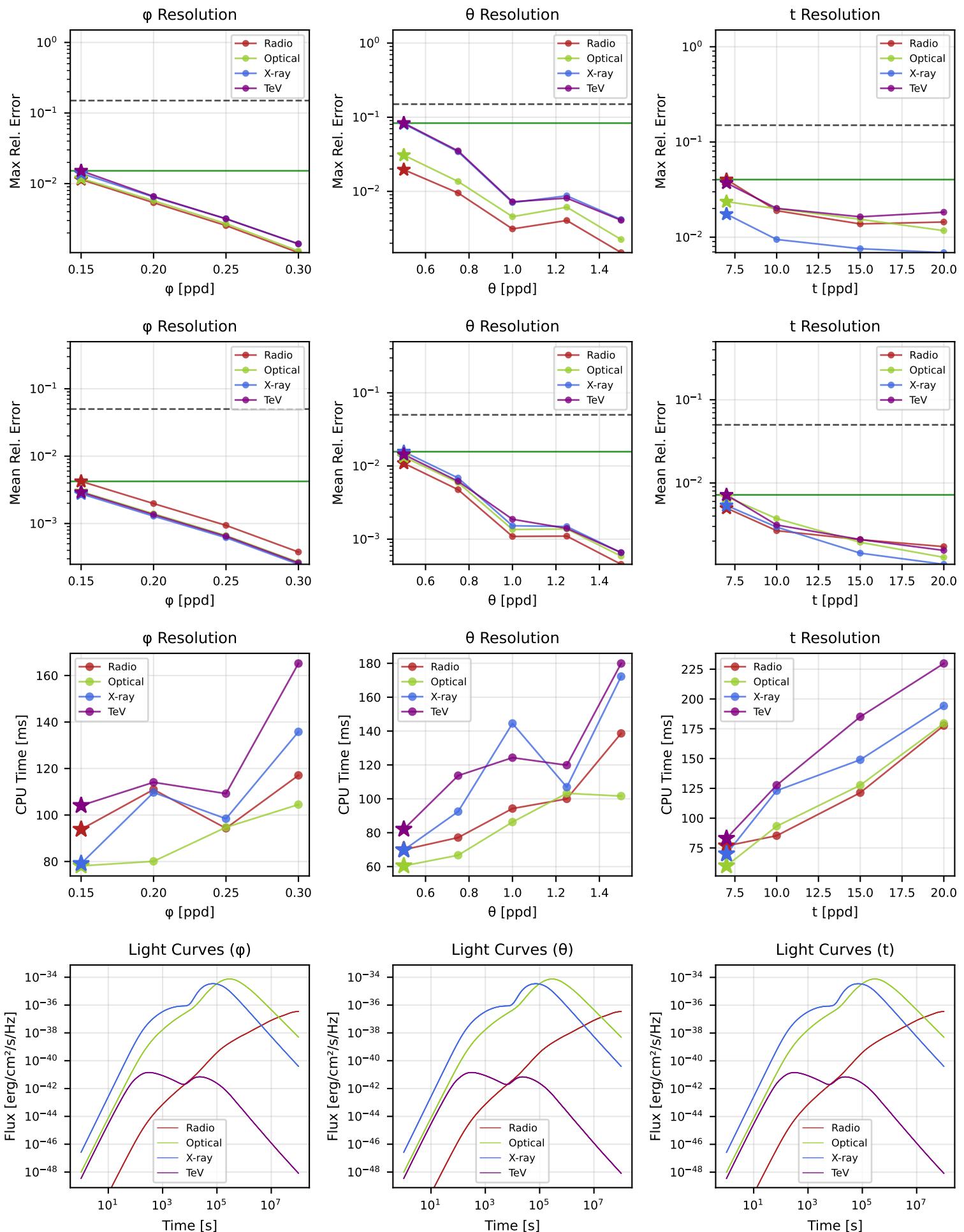
[PASS]

#151: two_component / ISM / ssc_kn / $\theta_v/\theta_c=0.0$



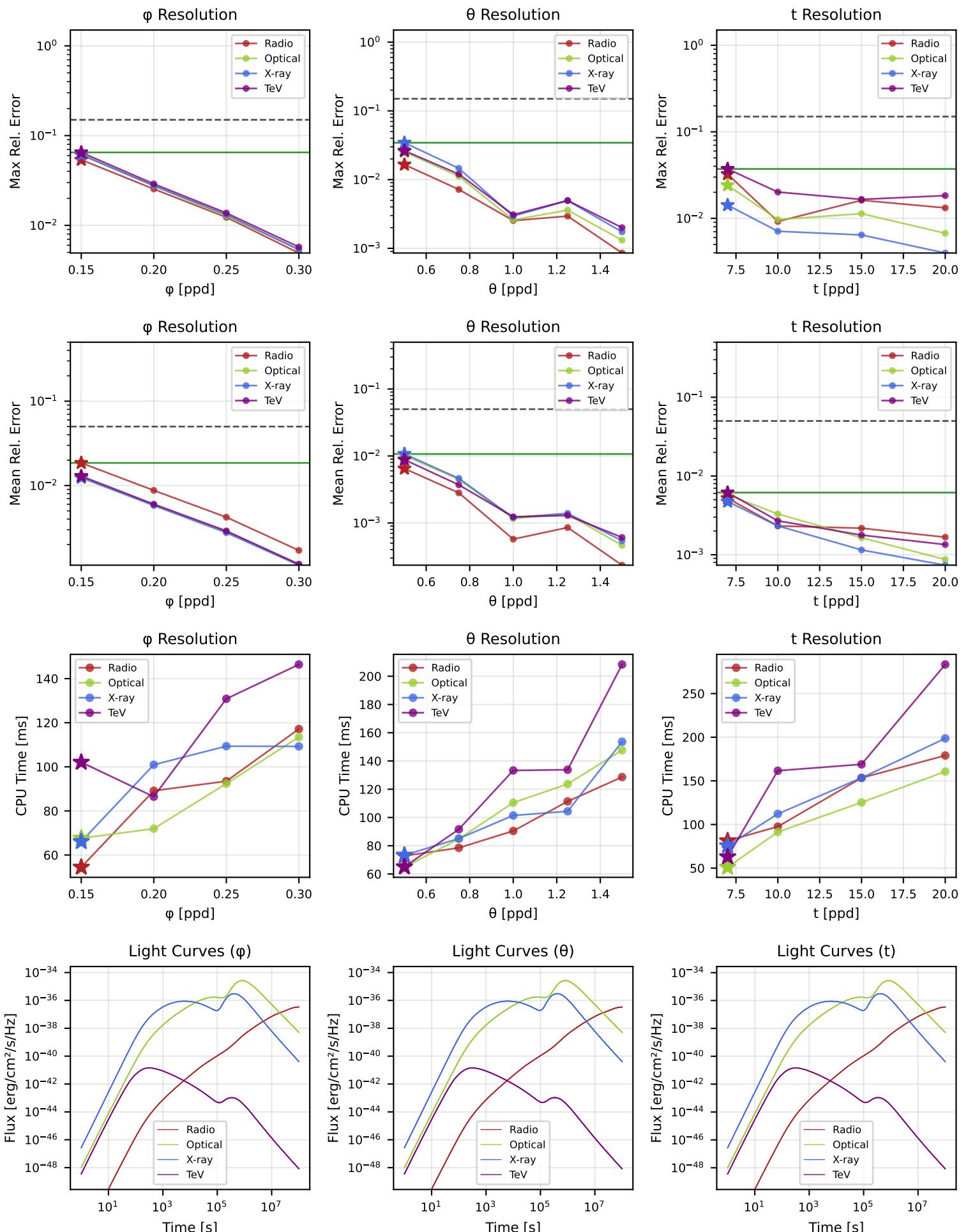
[PASS]

#152: two_component / ISM / ssc_kn / $\theta_v/\theta_c=2.0$

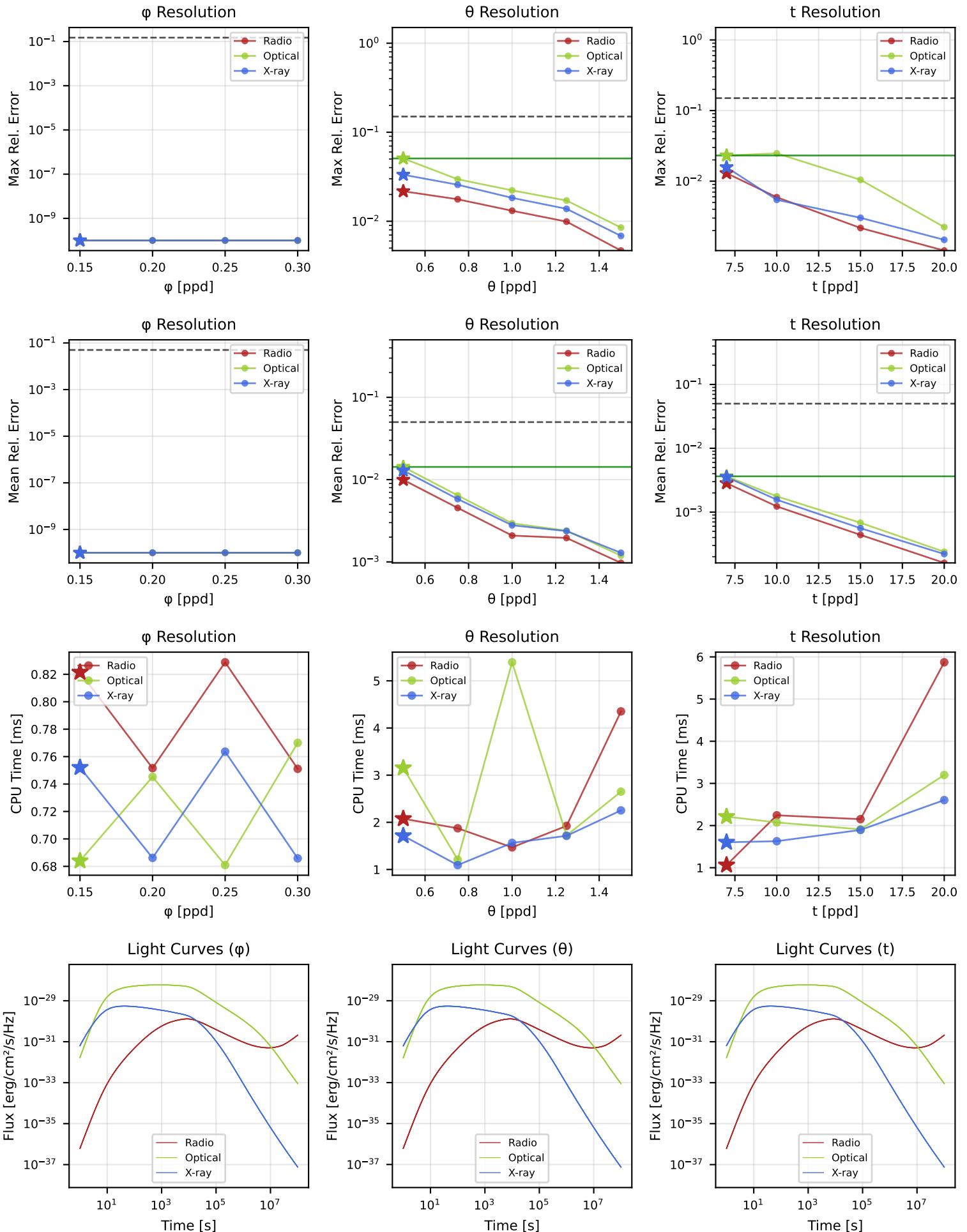


[PASS]

#153: two_component / ISM / ssc_kn / $\theta_v/\theta_c=4.0$

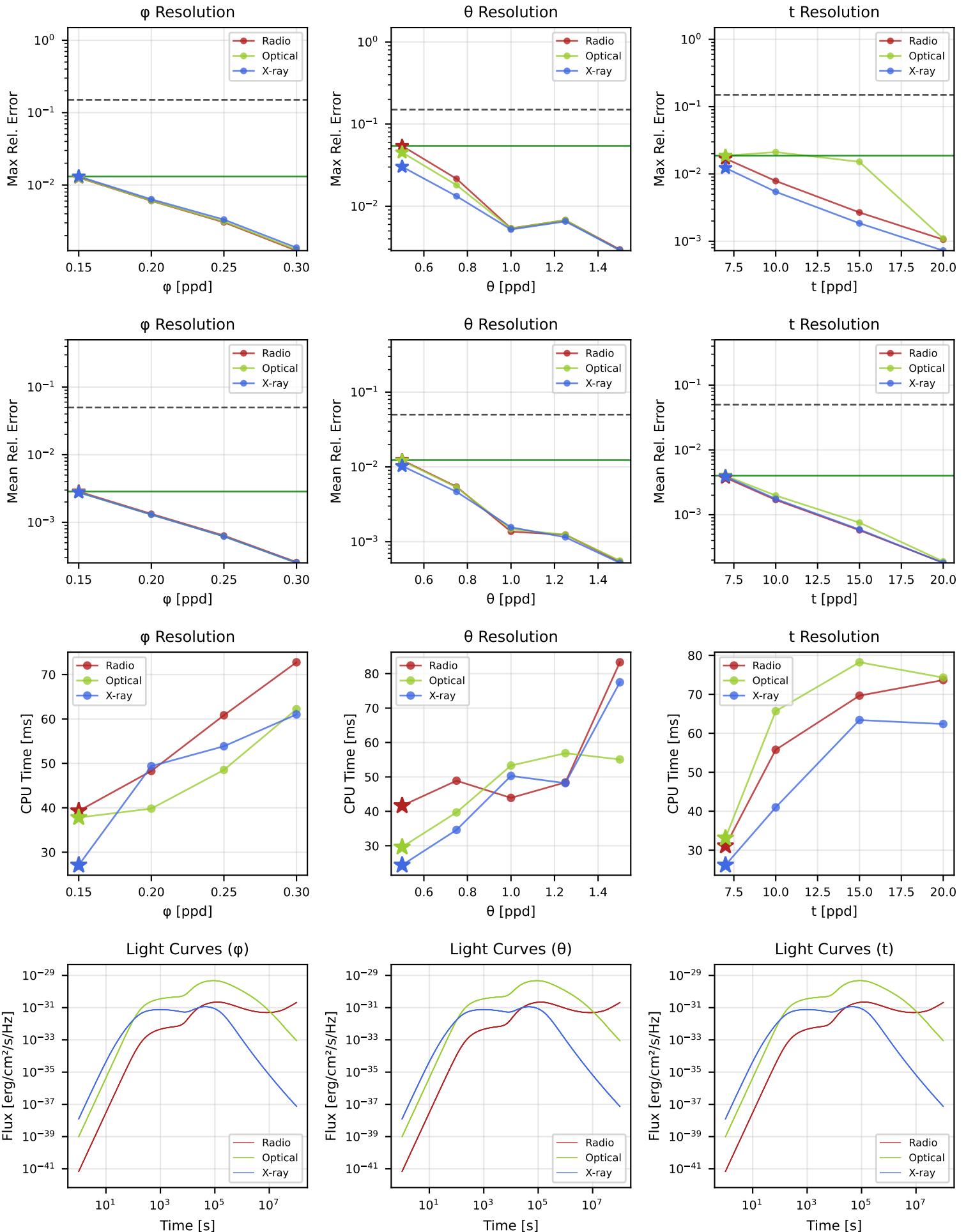


[PASS]

#154: two_component / ISM / fast_cooling / $\theta_v/\theta_c=0.0$ 

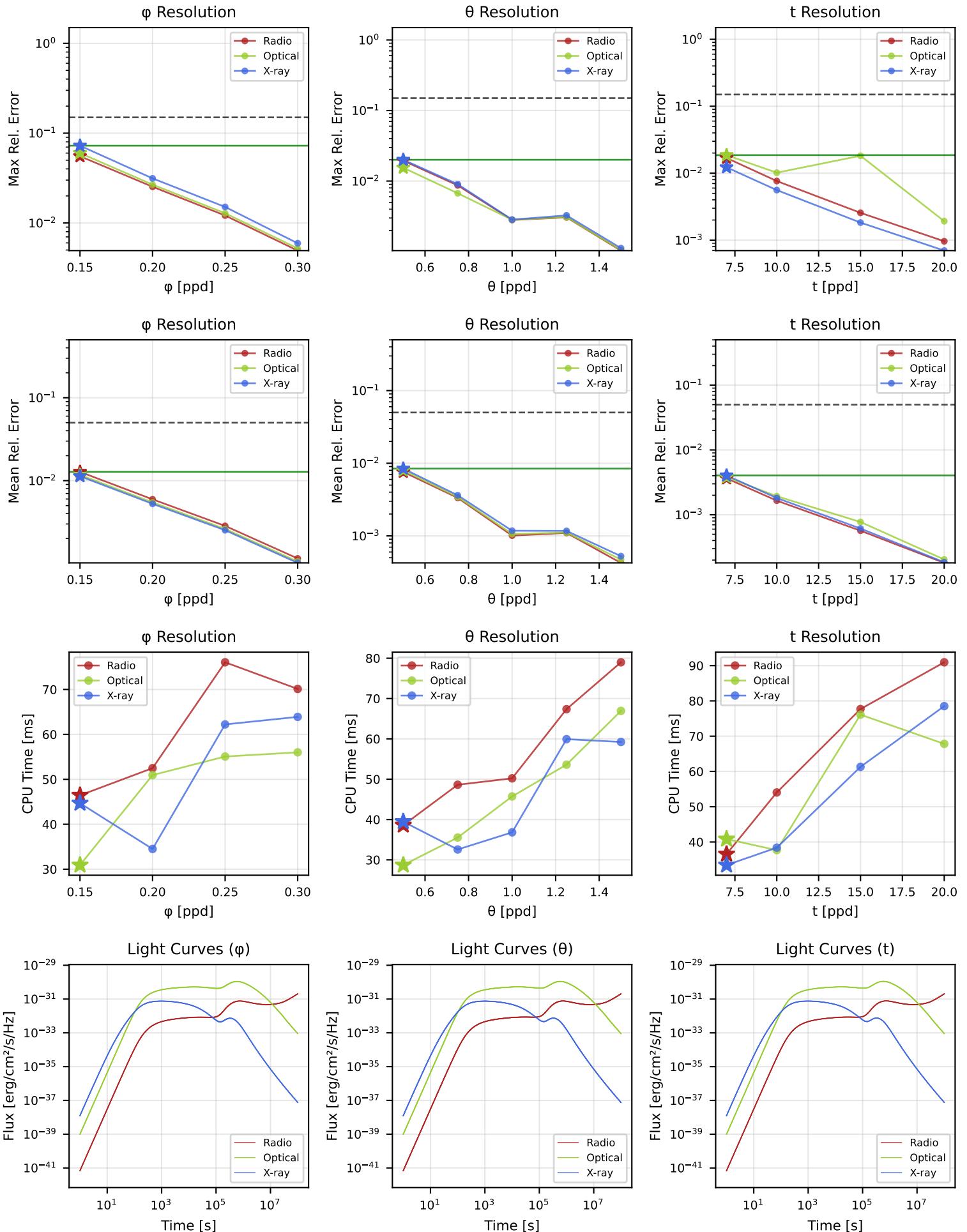
[PASS]

#155: two_component / ISM / fast_cooling / $\theta_v/\theta_c=2.0$



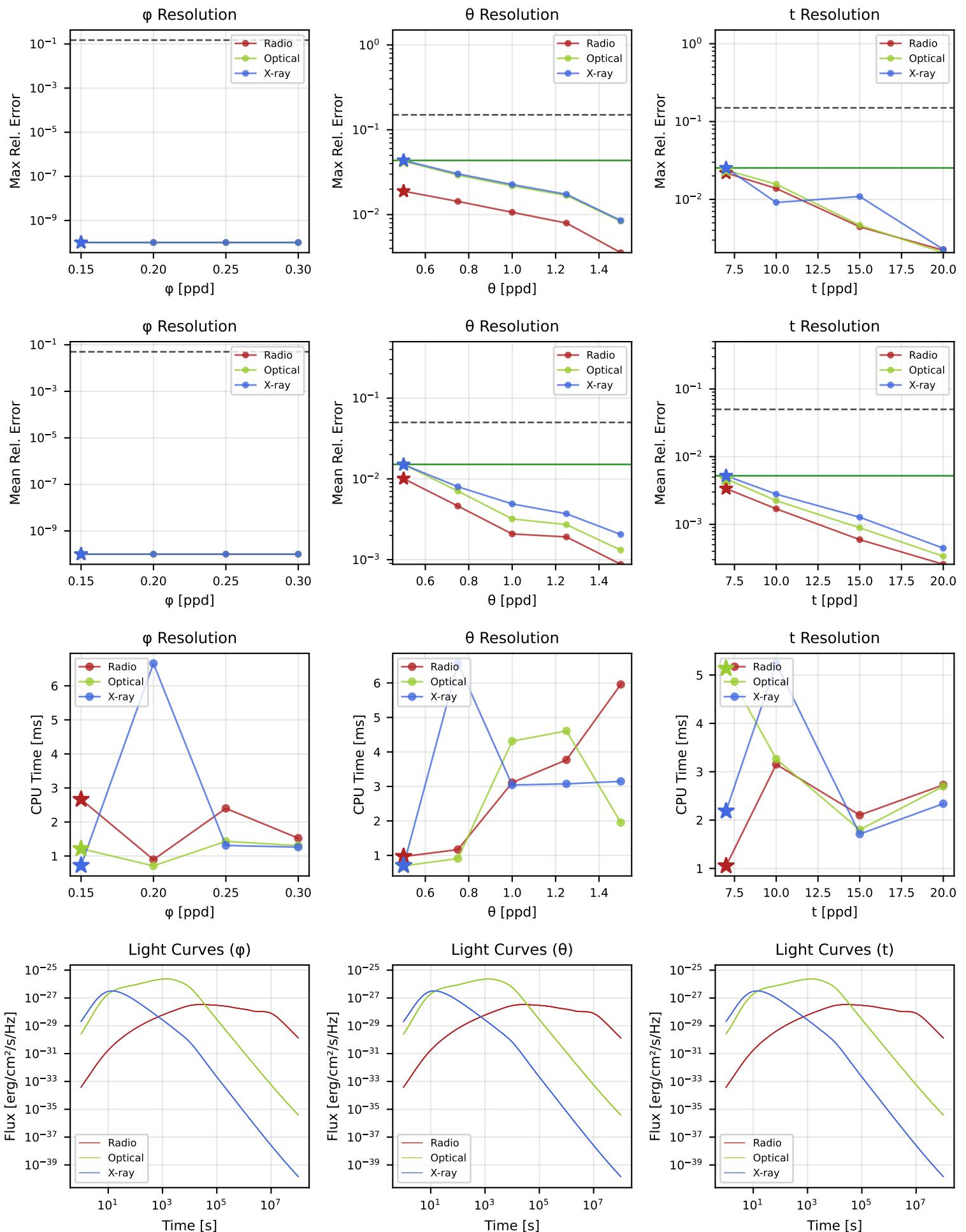
[PASS]

#156: two_component / ISM / fast_cooling / $\theta_v/\theta_c=4.0$



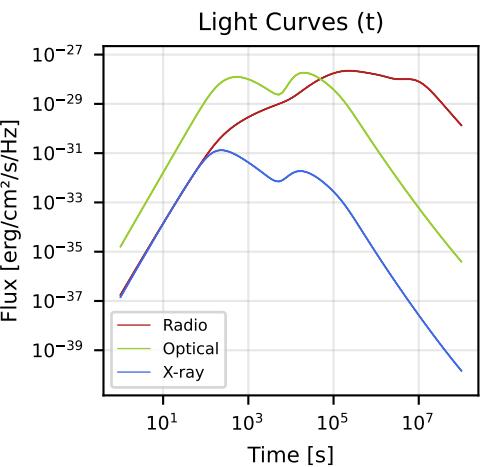
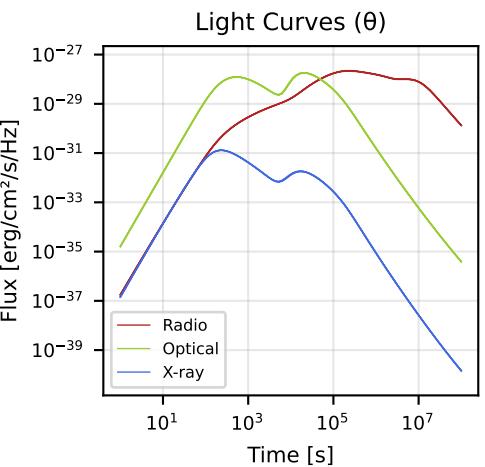
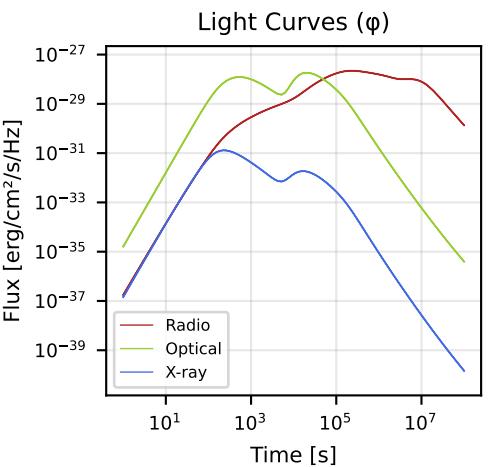
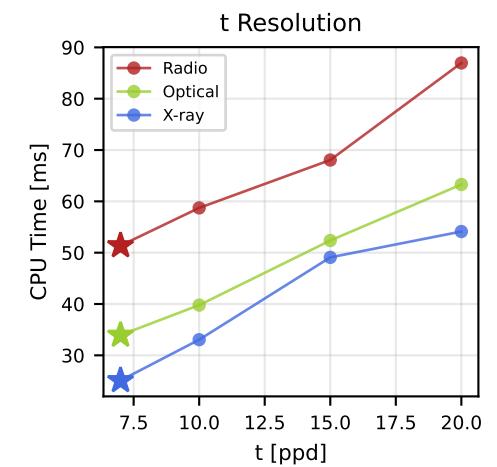
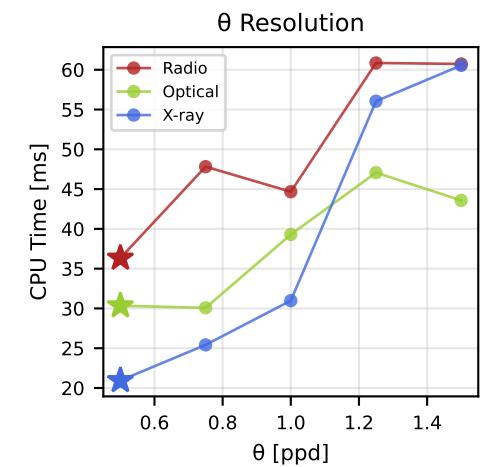
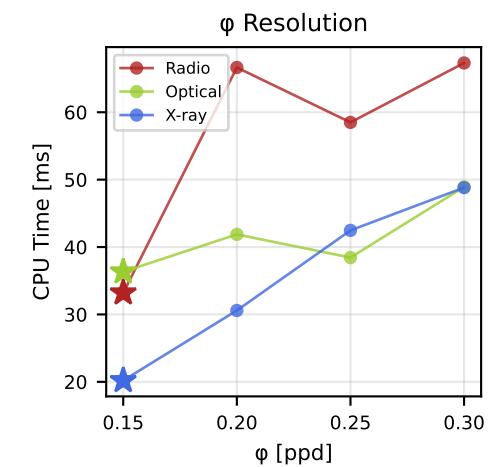
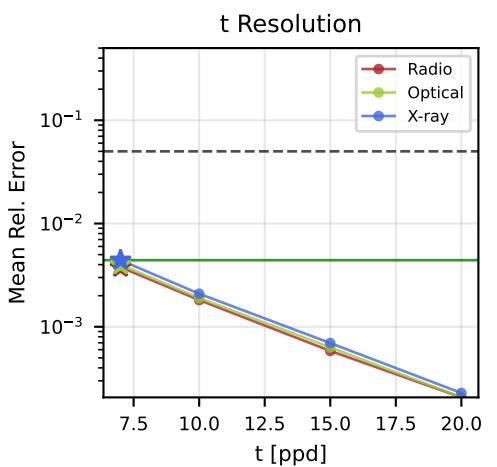
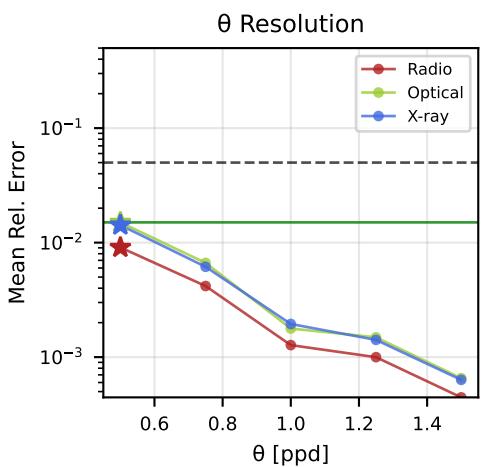
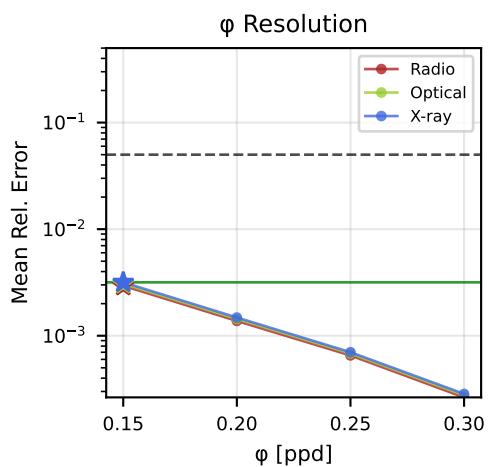
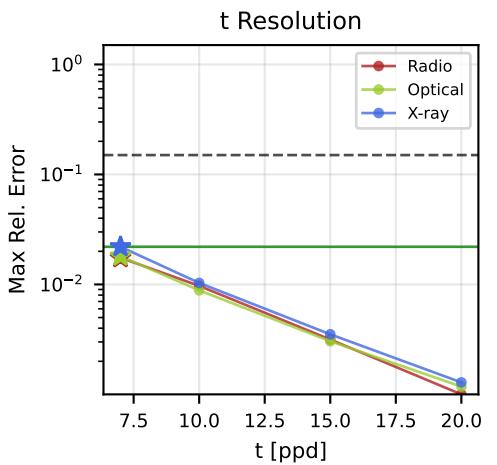
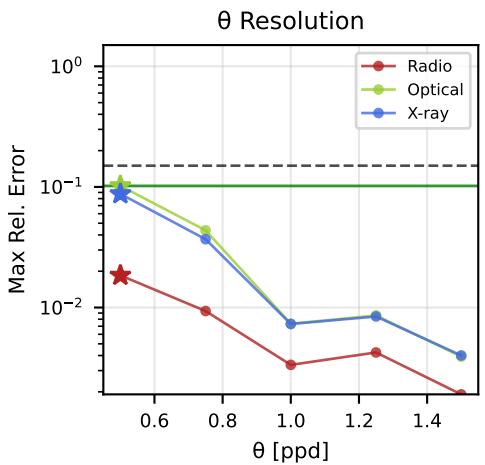
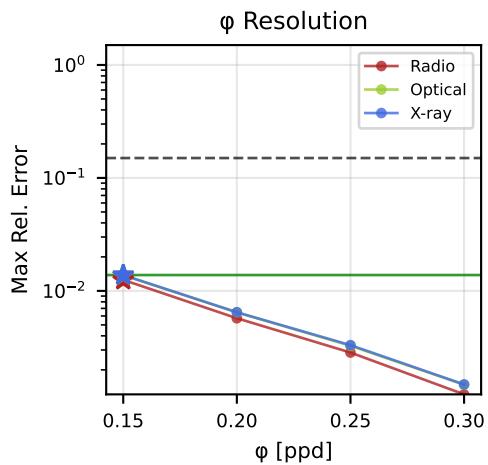
[PASS]

#157: two_component / ISM / steep_spectrum / $\theta_v/\theta_c=0.0$



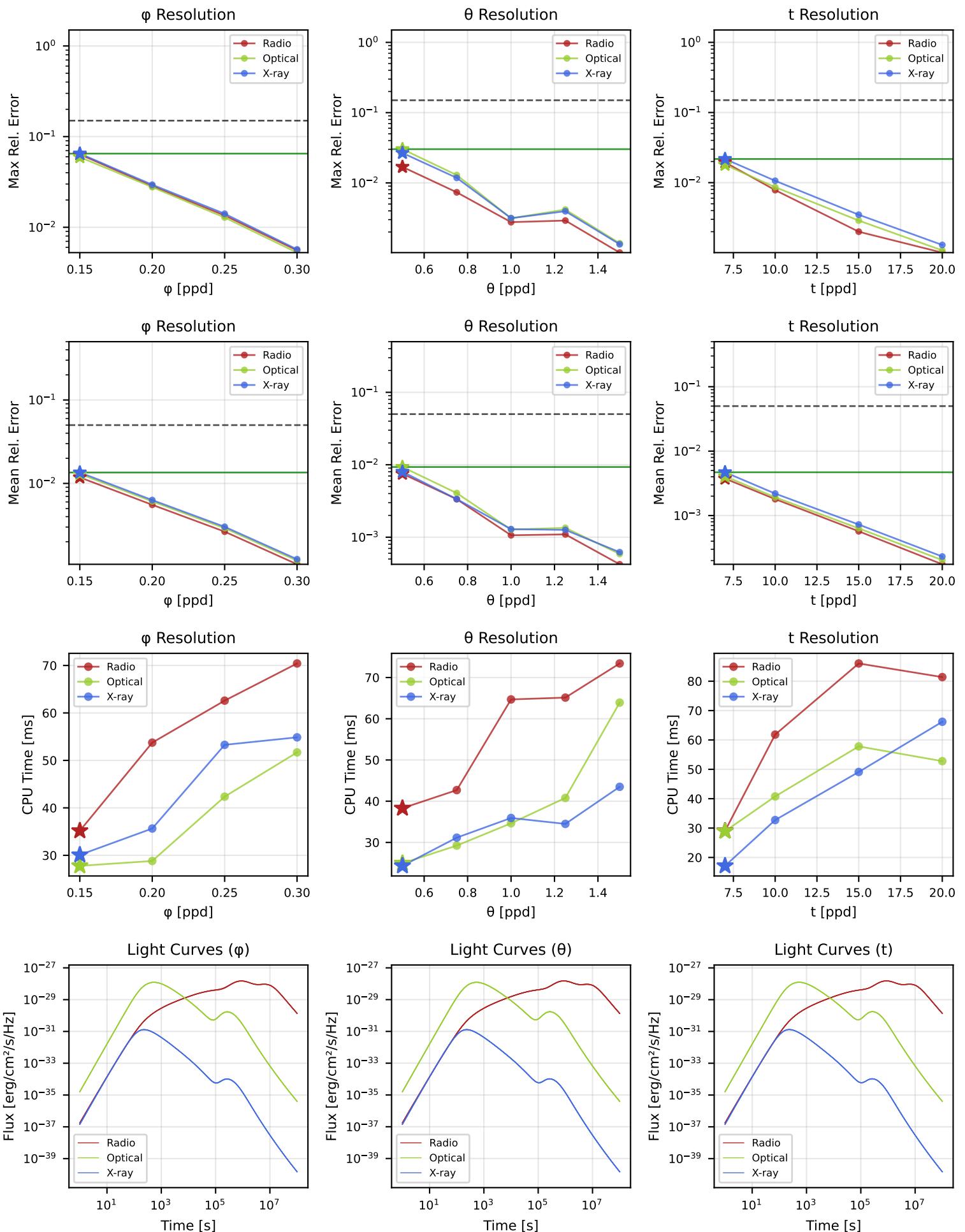
[PASS]

#158: two_component / ISM / steep_spectrum / $\theta_v/\theta_c=2.0$

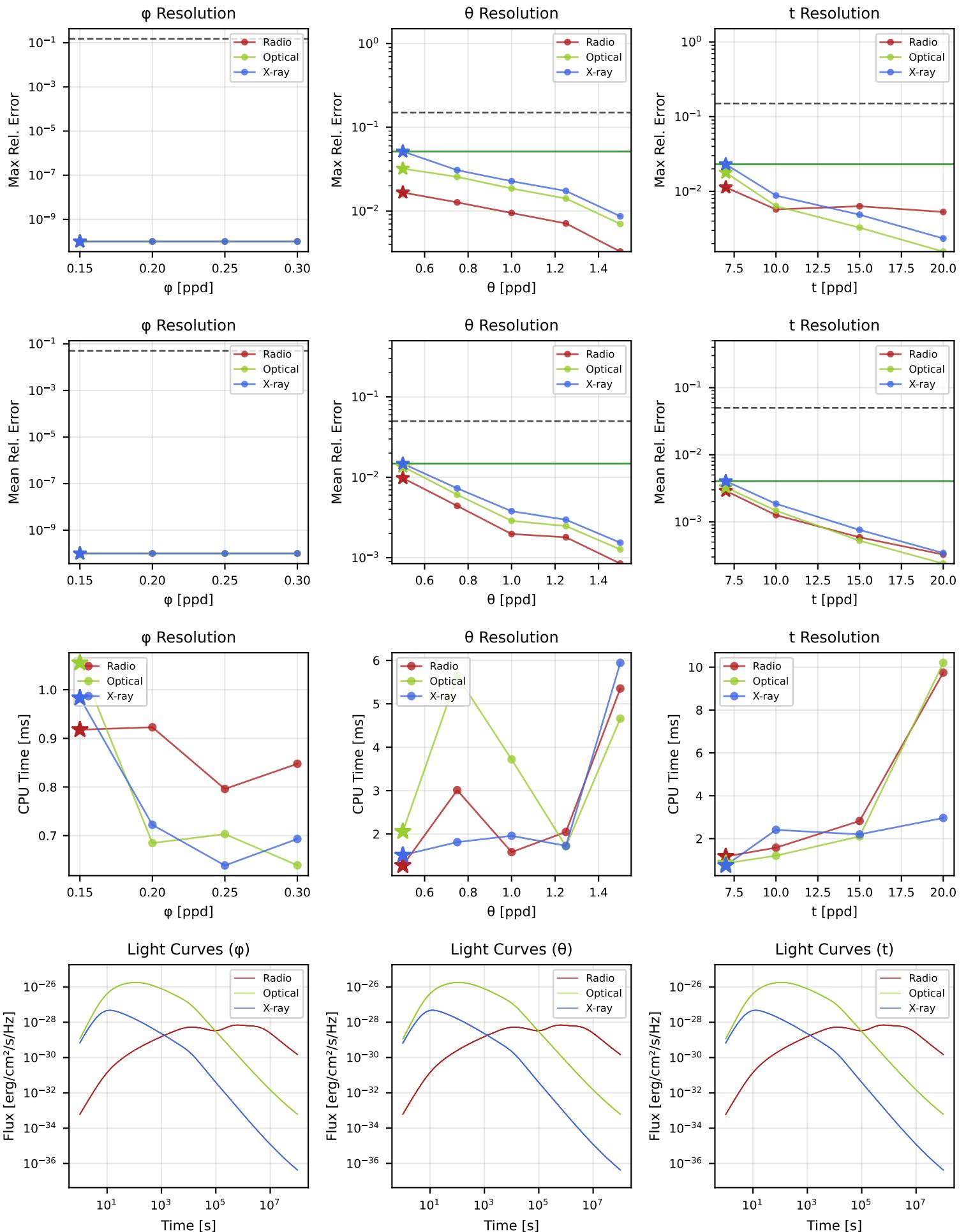


[PASS]

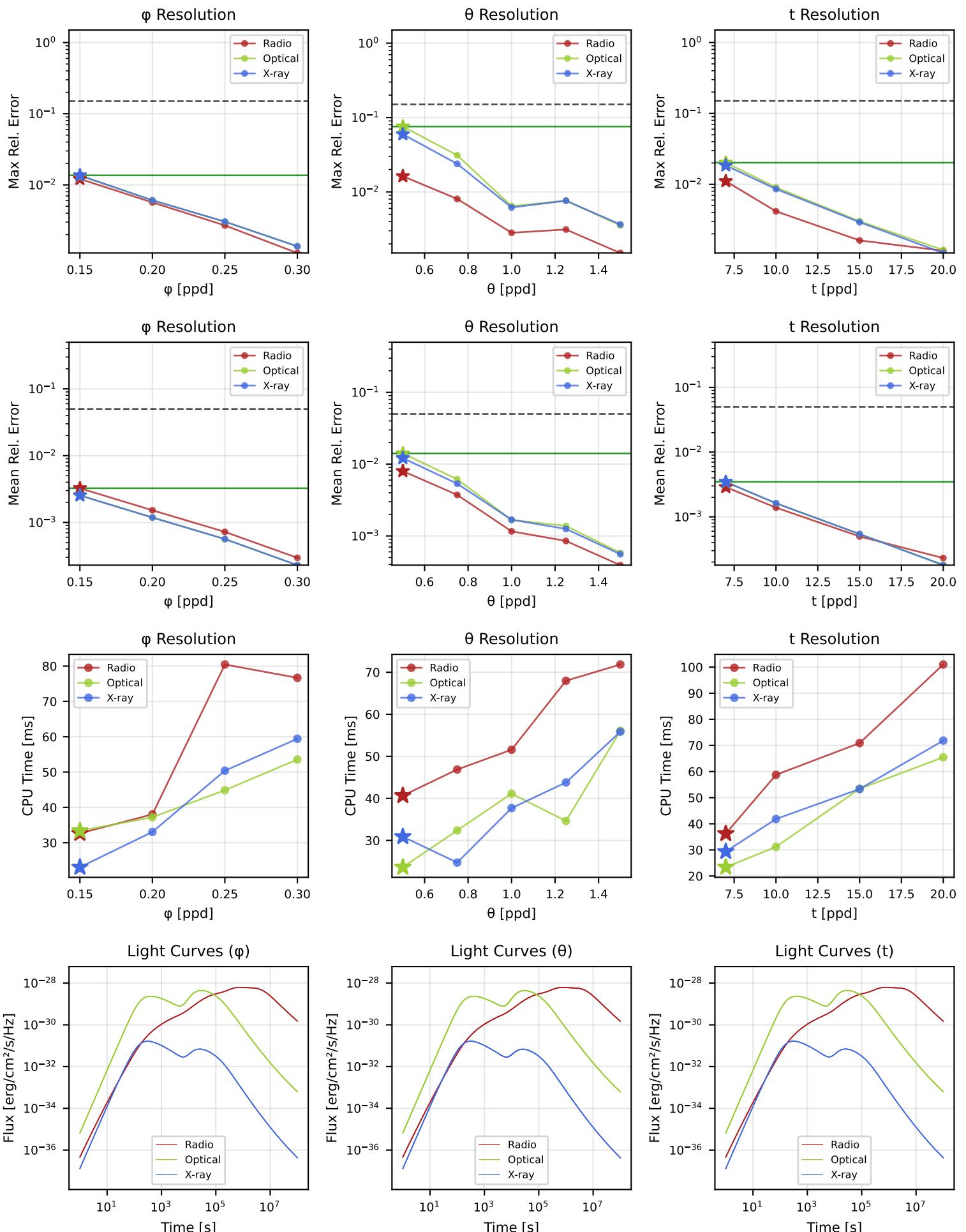
#159: two_component / ISM / steep_spectrum / $\theta_v/\theta_c=4.0$



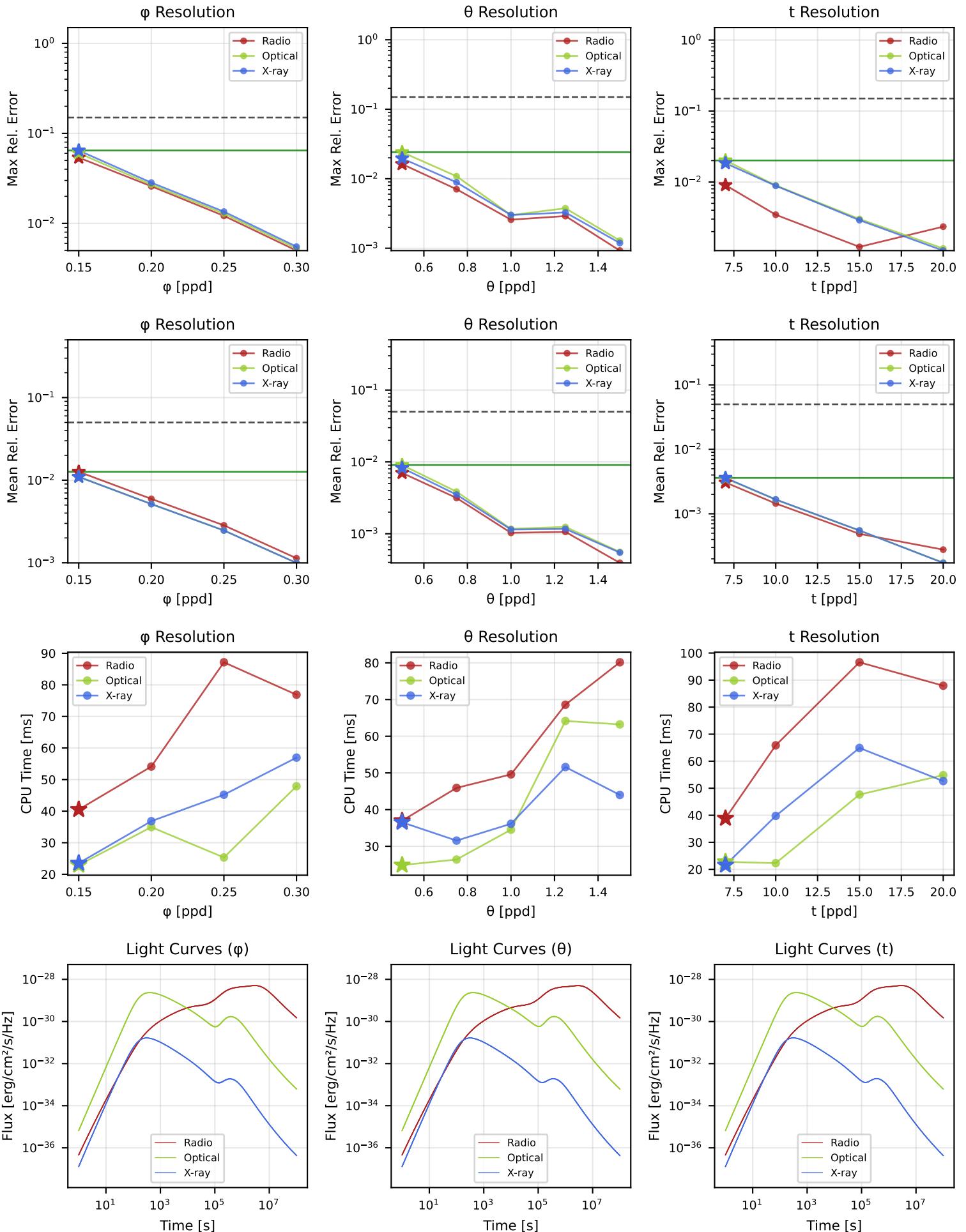
[PASS]

#160: two_component / ISM / flat_spectrum / $\theta_v/\theta_c=0.0$ 

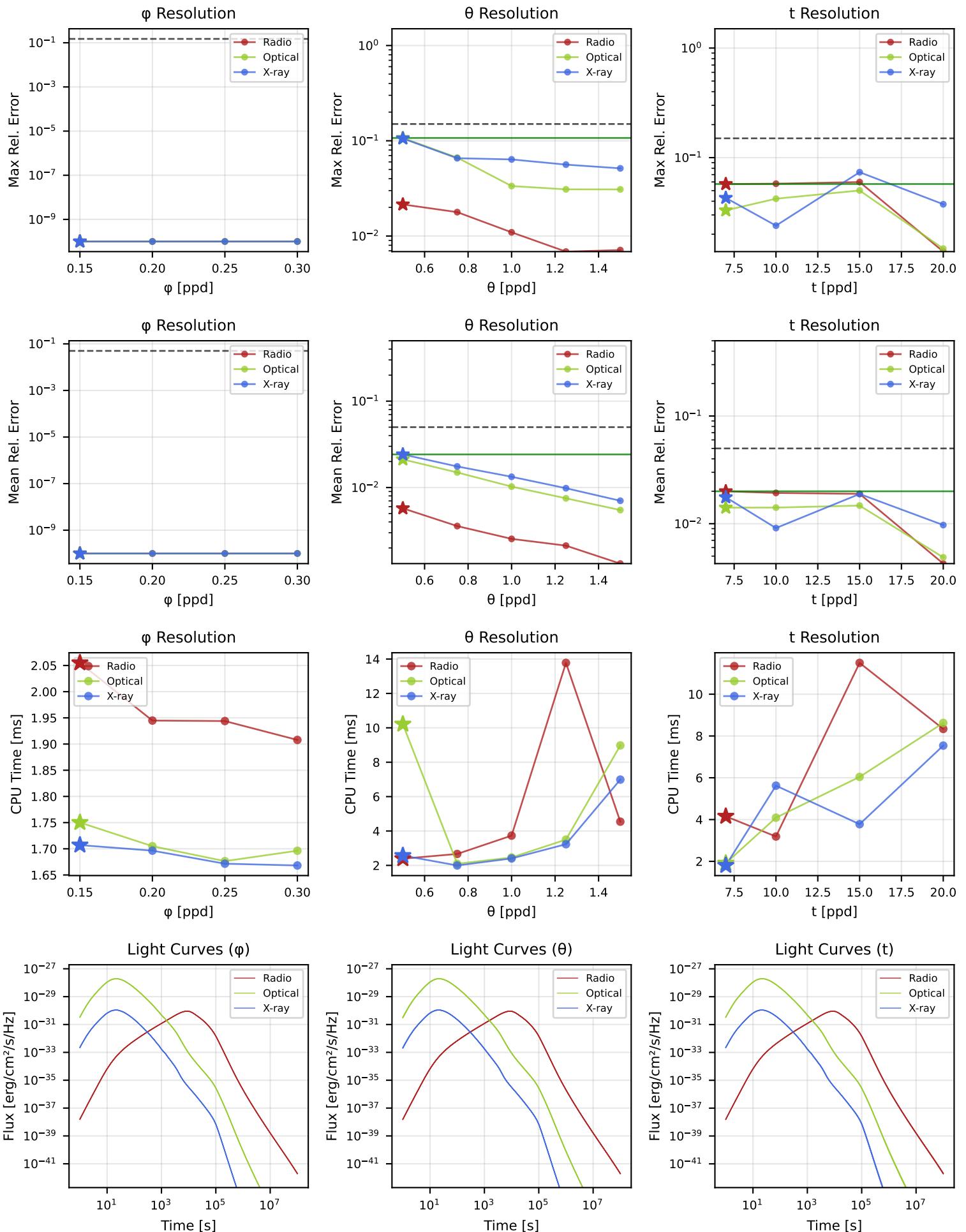
[PASS]

#161: two_component / ISM / flat_spectrum / $\theta_v/\theta_c=2.0$ 

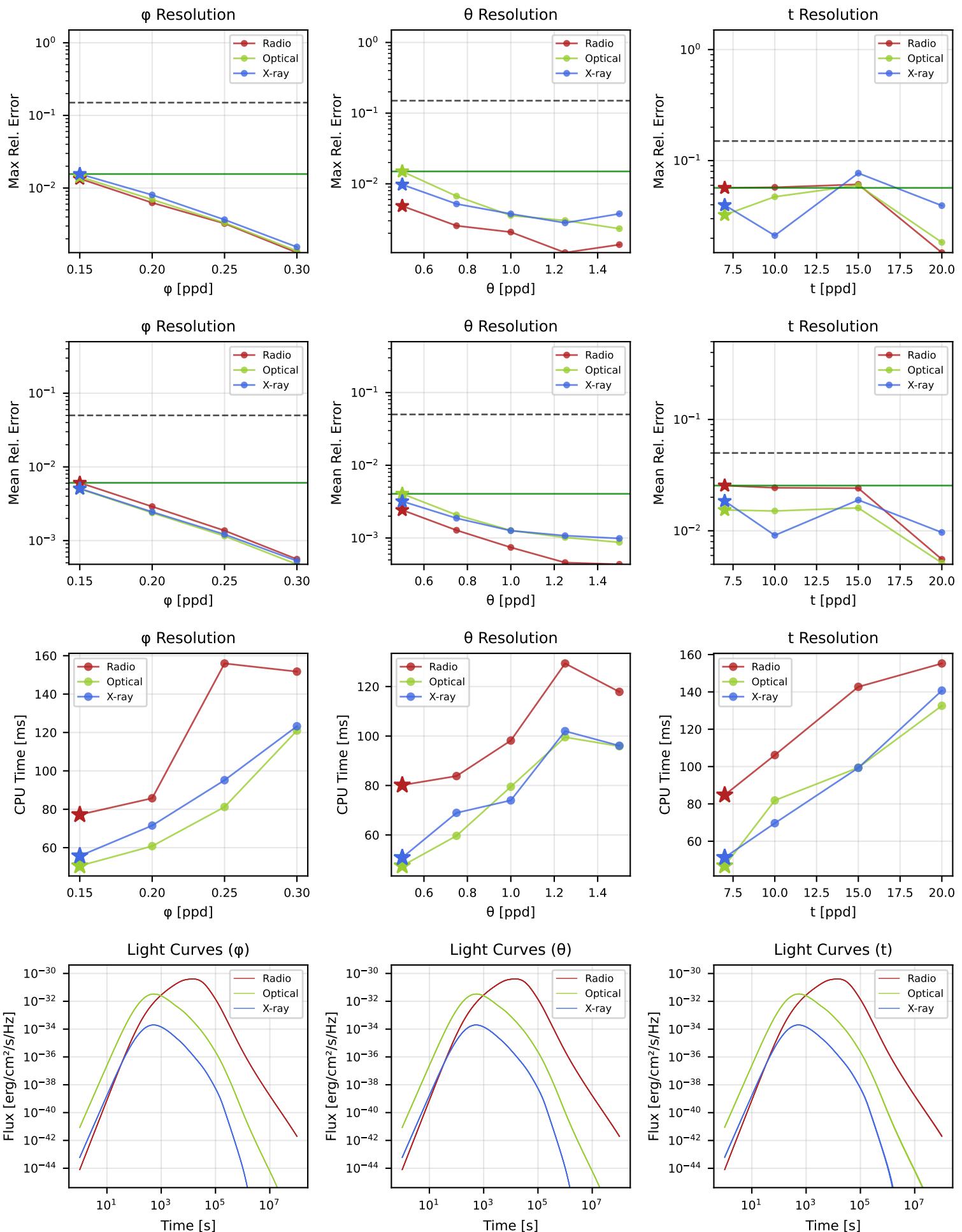
[PASS]

#162: two_component / ISM / flat_spectrum / $\theta_v/\theta_c=4.0$ 

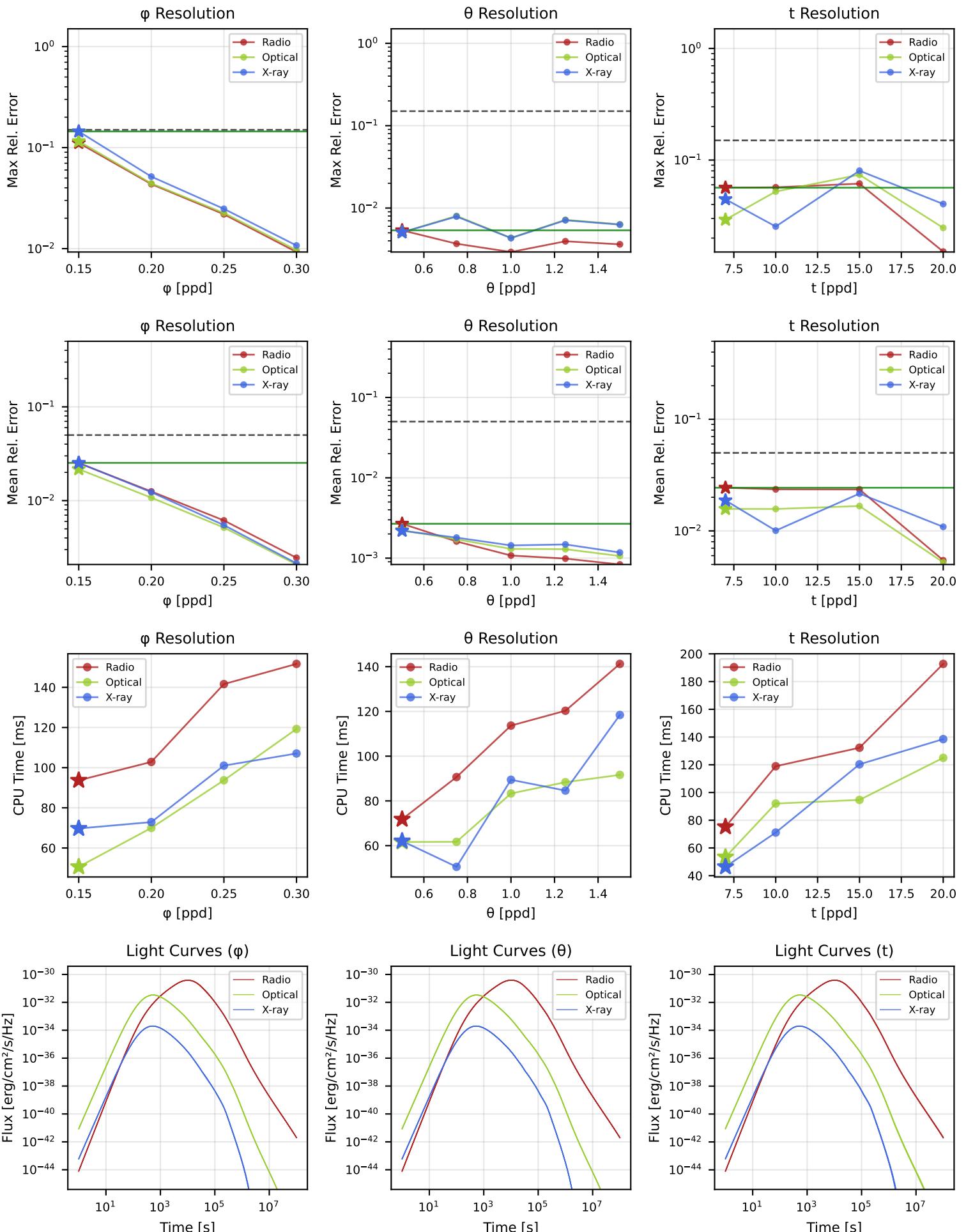
[PASS]

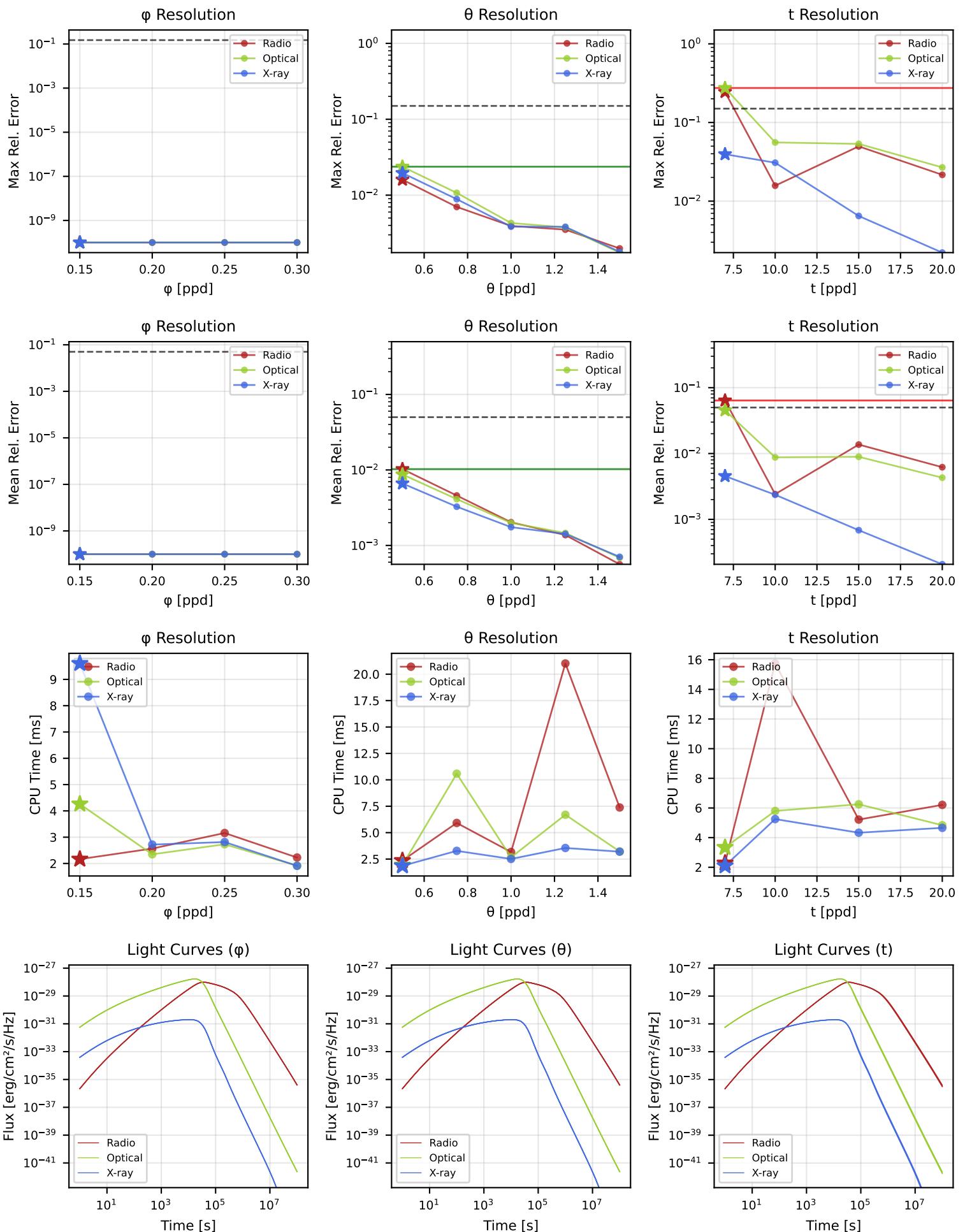
#163: two_component / ISM / rvs_sync_thin / $\theta_v/\theta_c=0.0$ 

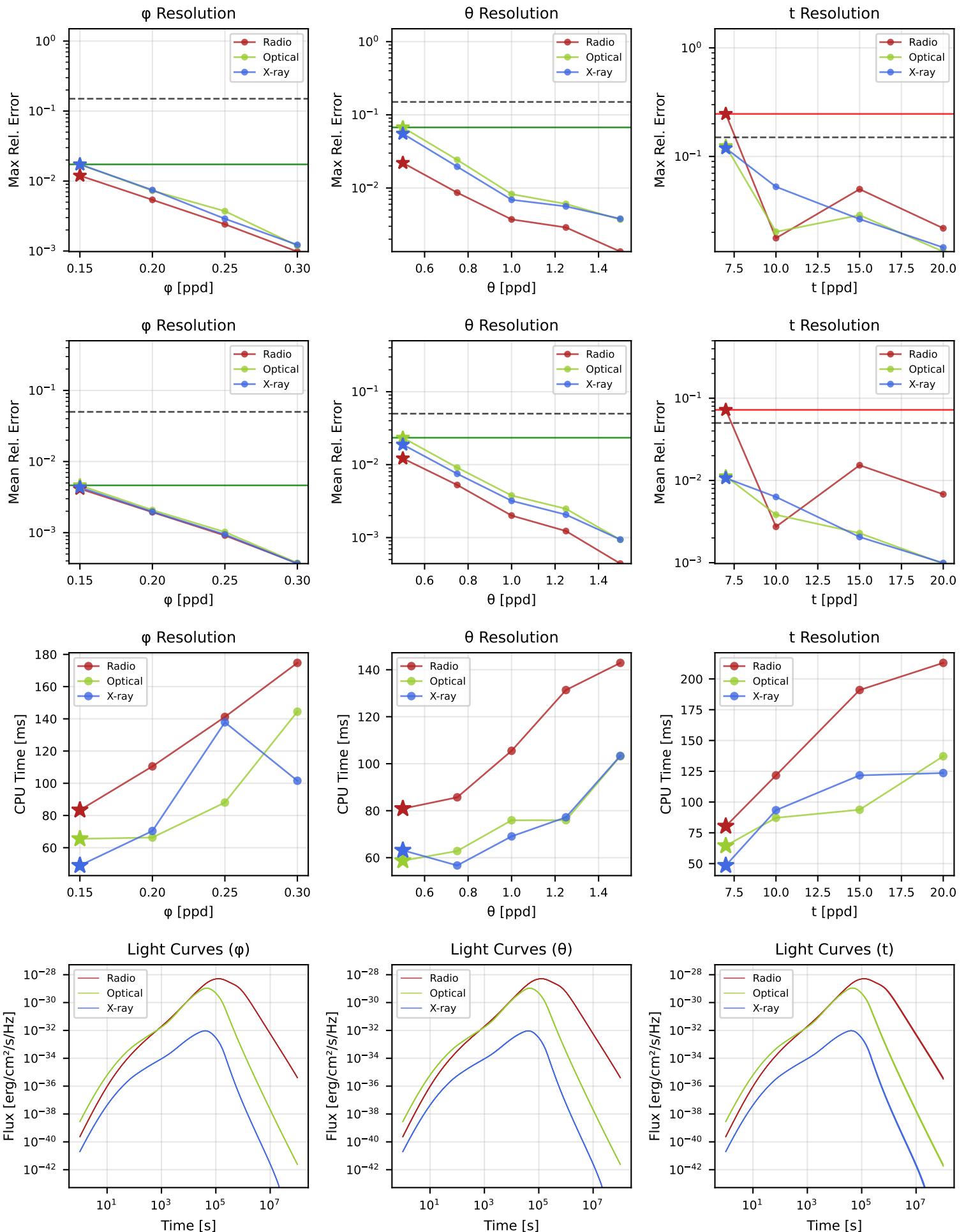
[PASS]

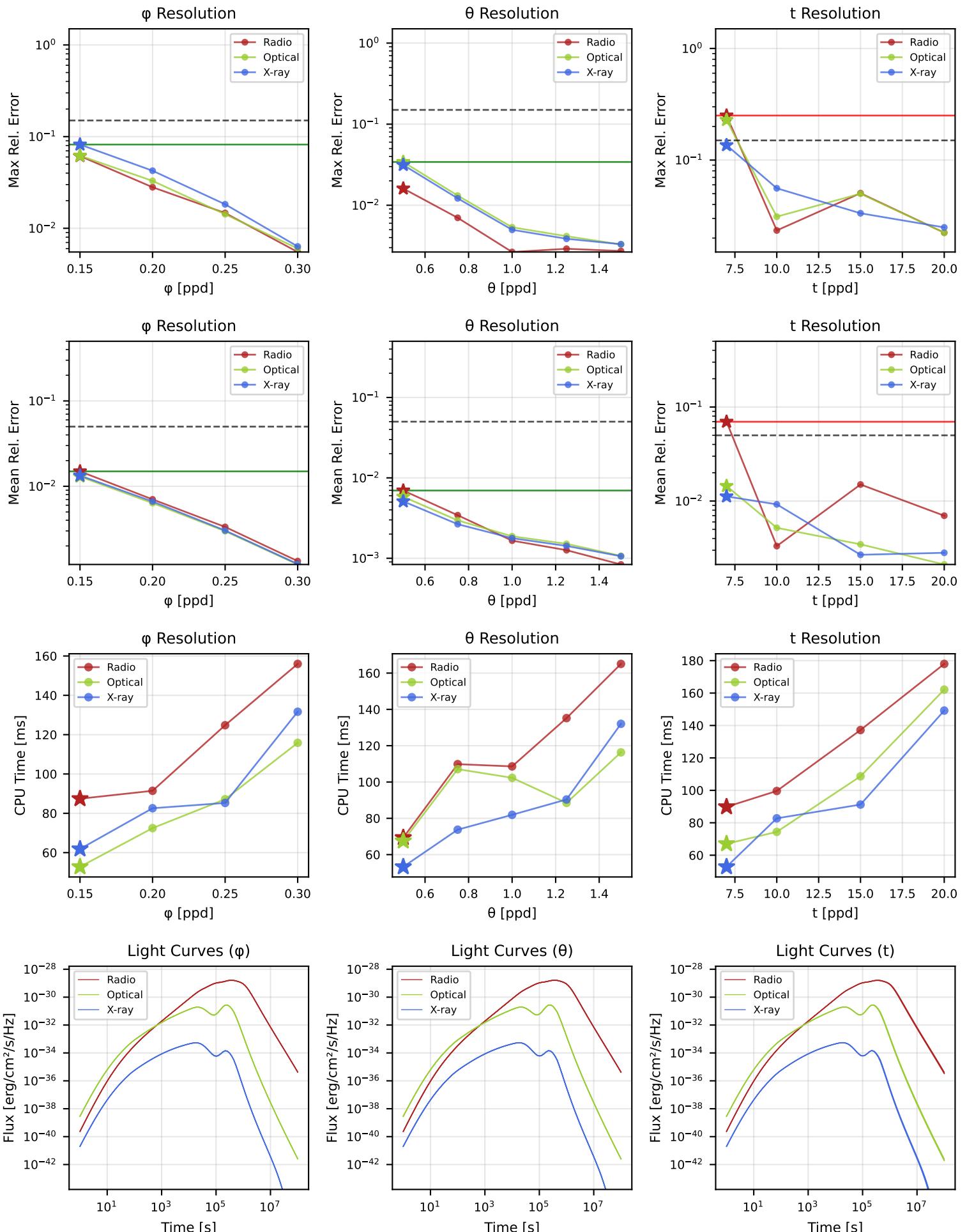
#164: two_component / ISM / rvs_sync_thin / $\theta_v/\theta_c=2.0$ 

[PASS]

#165: two_component / ISM / rvs_sync_thin / $\theta_v/\theta_c=4.0$ 

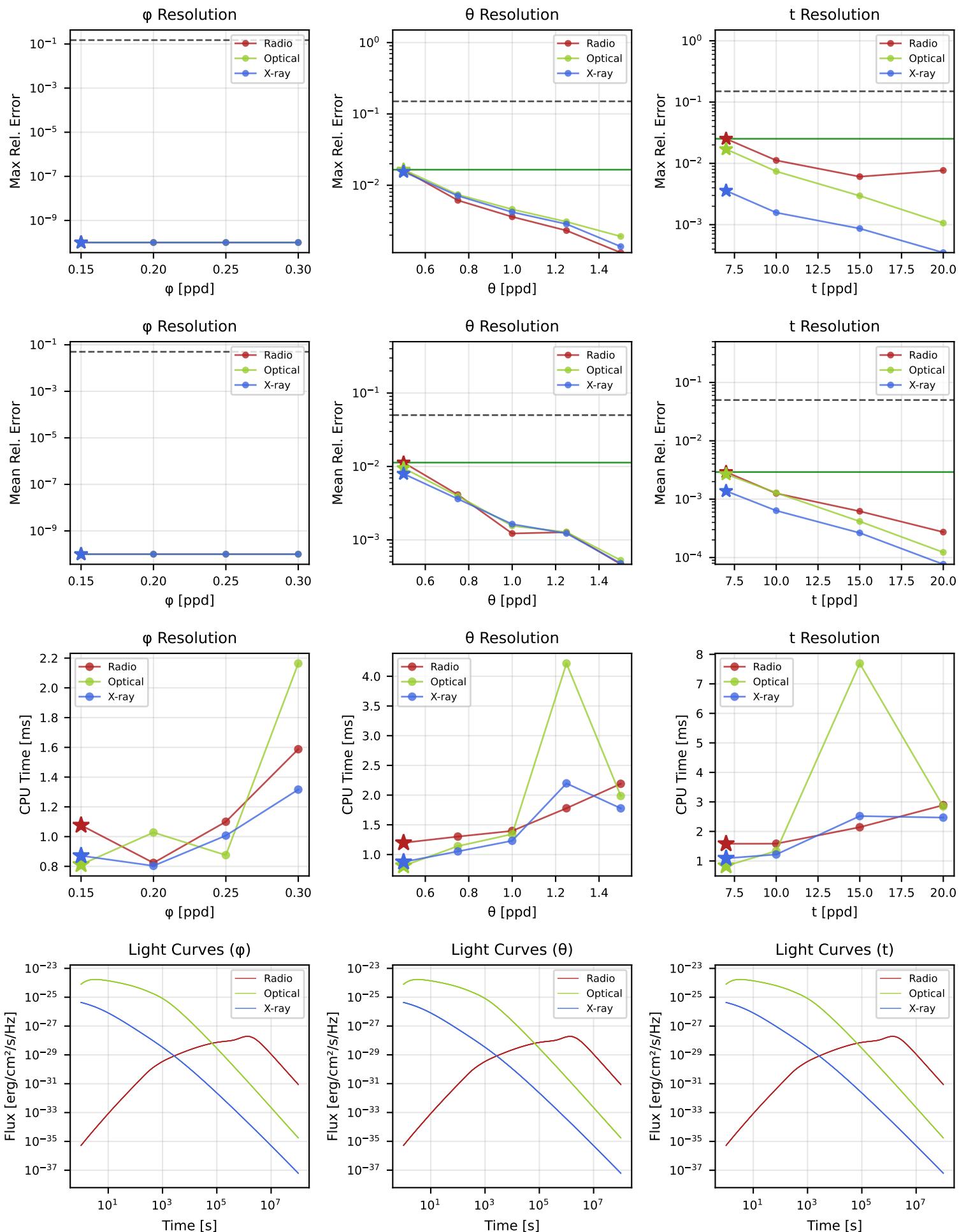
[FAIL]#166: two_component / ISM / rvs_sync_thick / $\theta_v/\theta_c=0.0$ 

[FAIL]#167: two_component / ISM / rvs_sync_thick / $\theta_v/\theta_c=2.0$ 

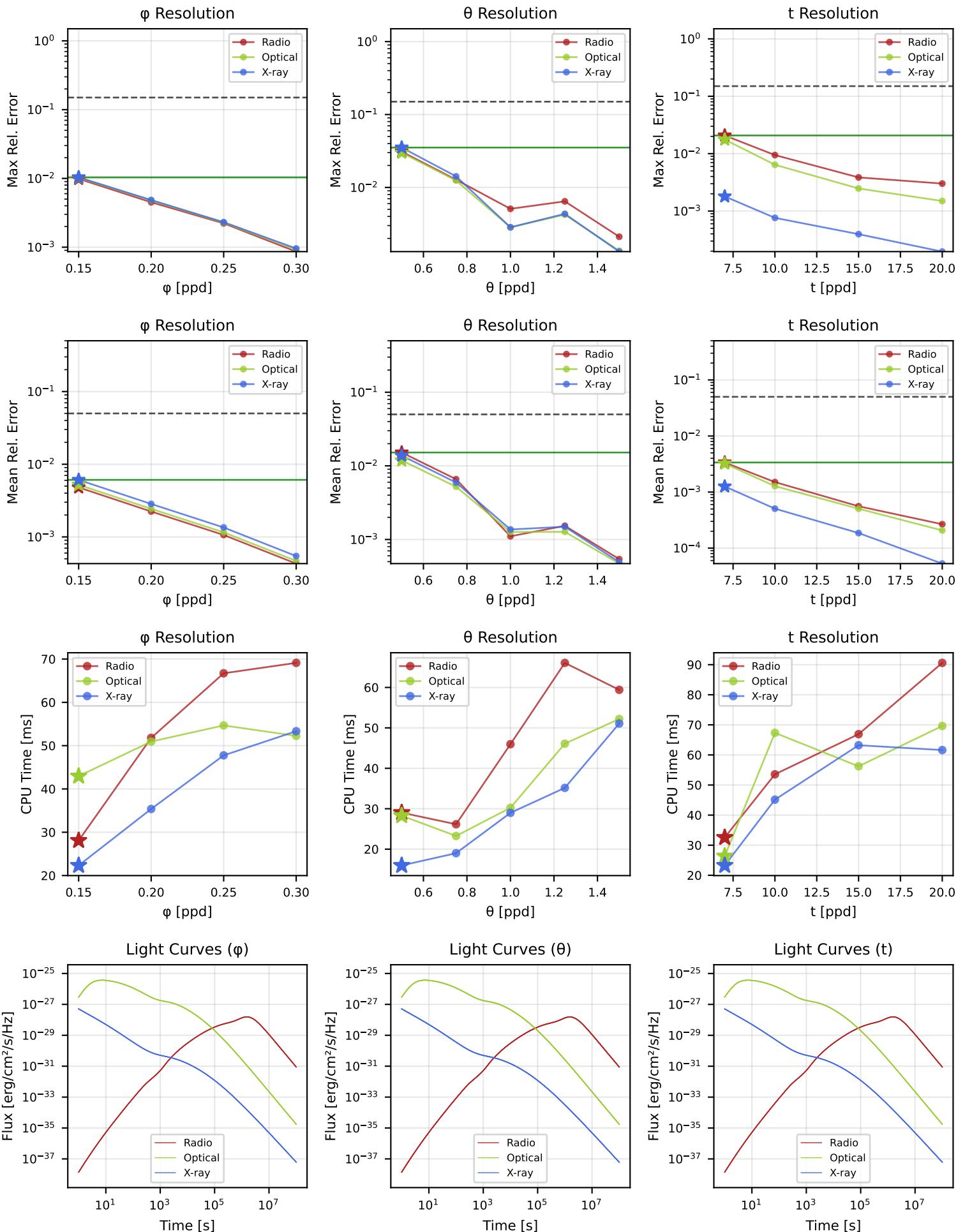
[FAIL]#168: two_component / ISM / rvs_sync_thick / $\theta_v/\theta_c=4.0$ 

[PASS]

#169: two_component / wind / synchrotron / $\theta_v/\theta_c=0.0$

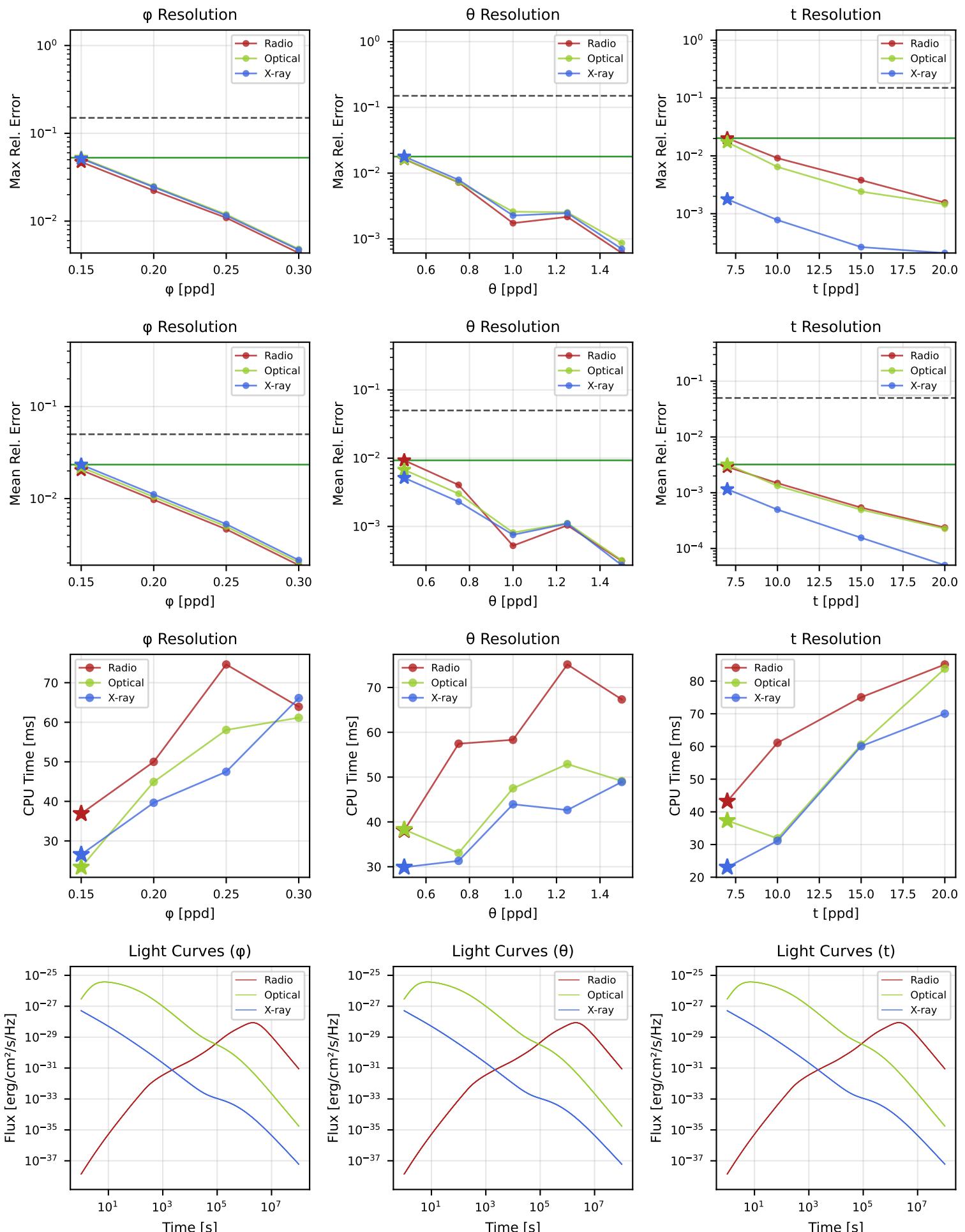


[PASS]

#170: two_component / wind / synchrotron / $\theta_v/\theta_c=2.0$ 

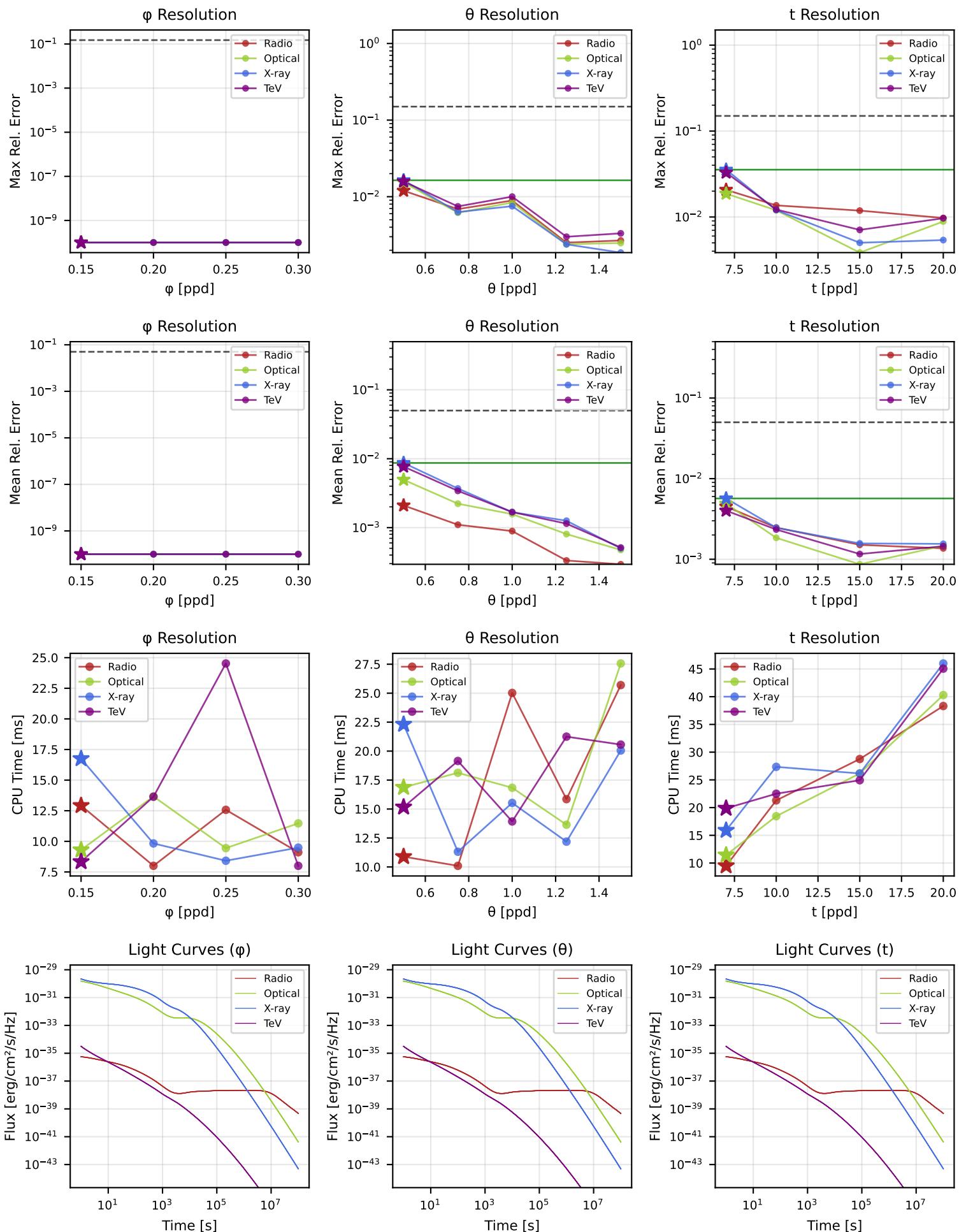
[PASS]

#171: two_component / wind / synchrotron / $\theta_v/\theta_c=4.0$



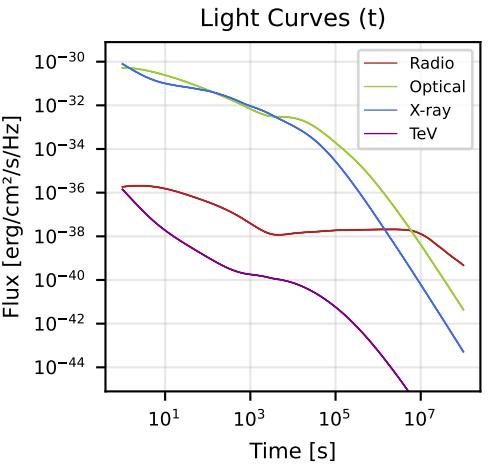
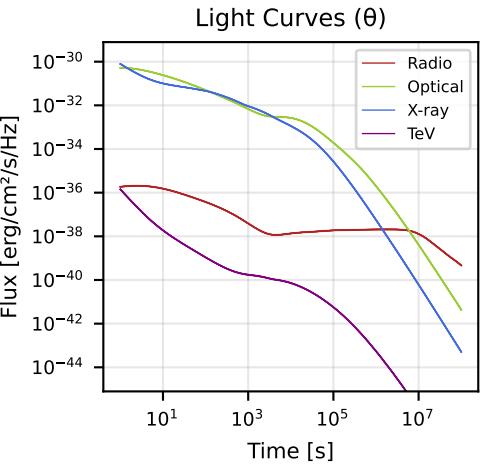
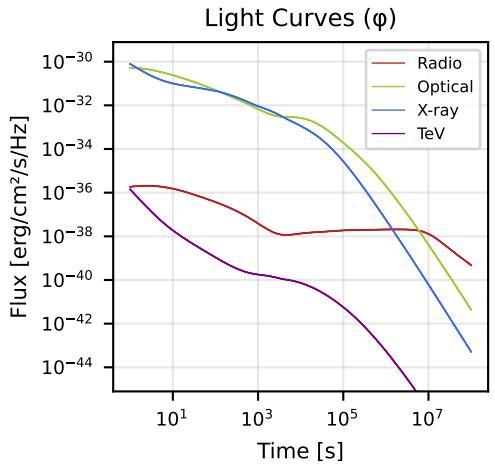
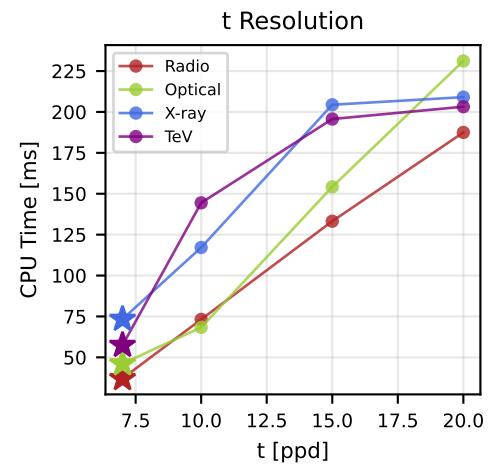
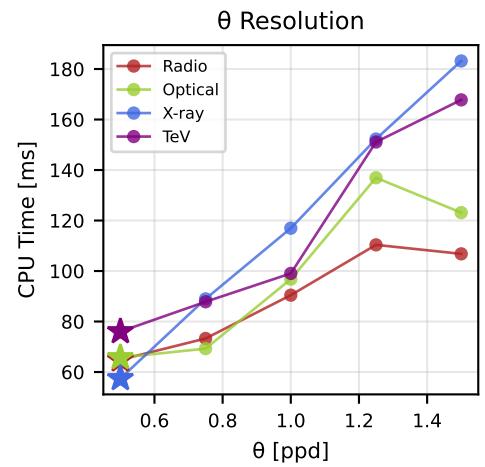
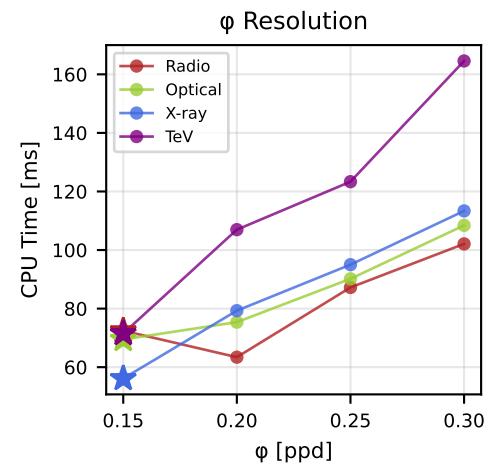
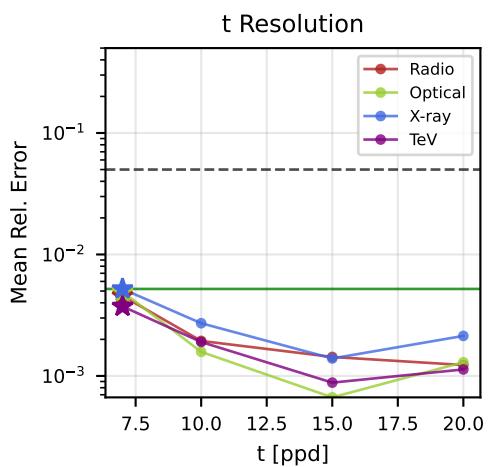
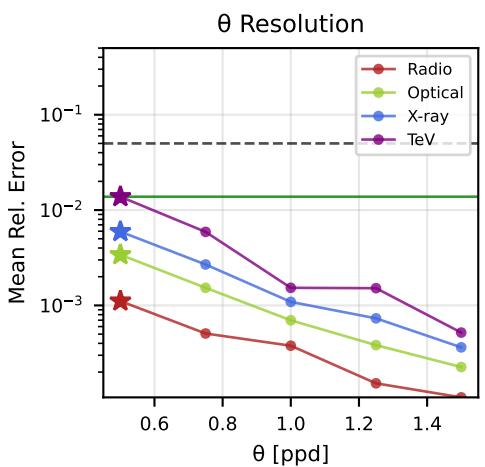
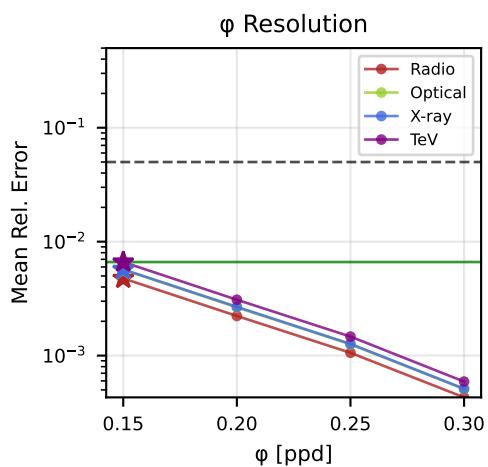
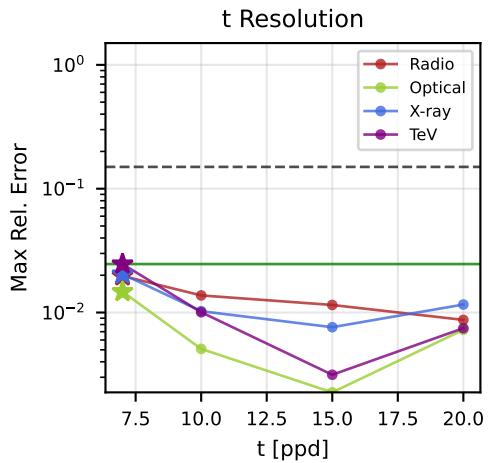
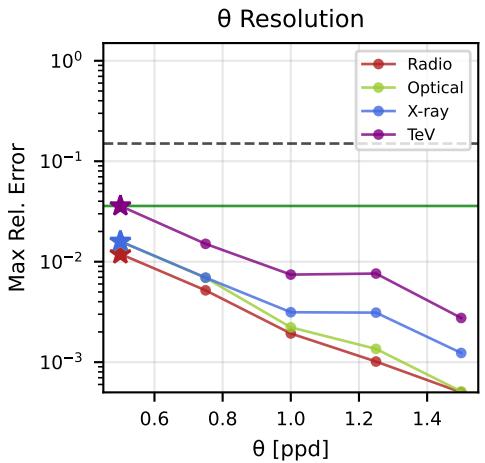
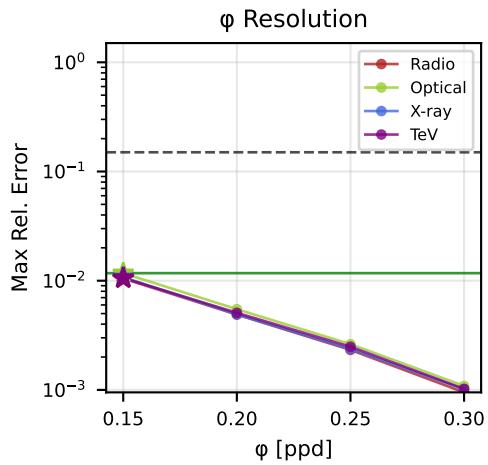
[PASS]

#172: two_component / wind / full_ssc / $\theta_v/\theta_c=0.0$



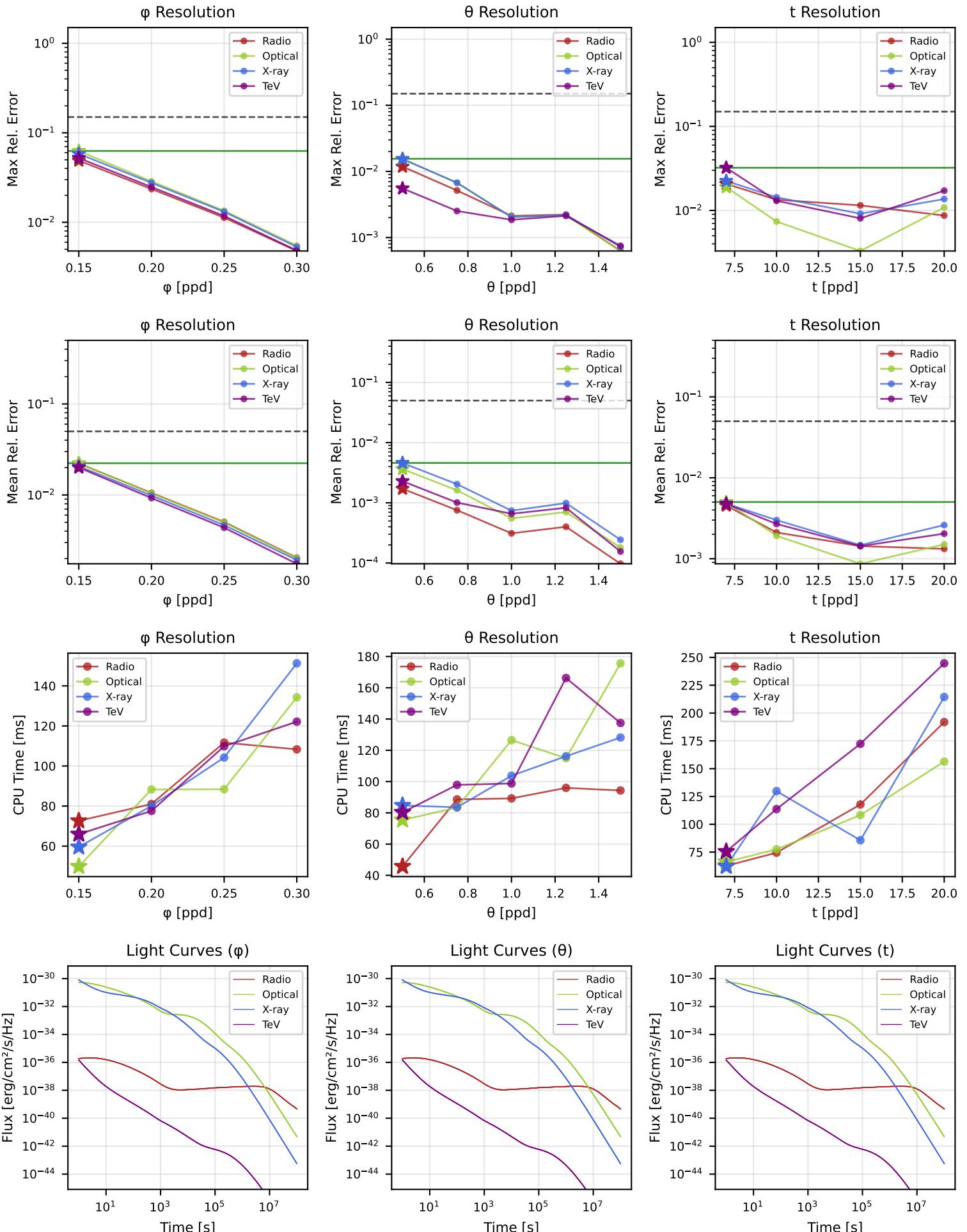
[PASS]

#173: two_component / wind / full_ssc / $\theta_v/\theta_c=2.0$



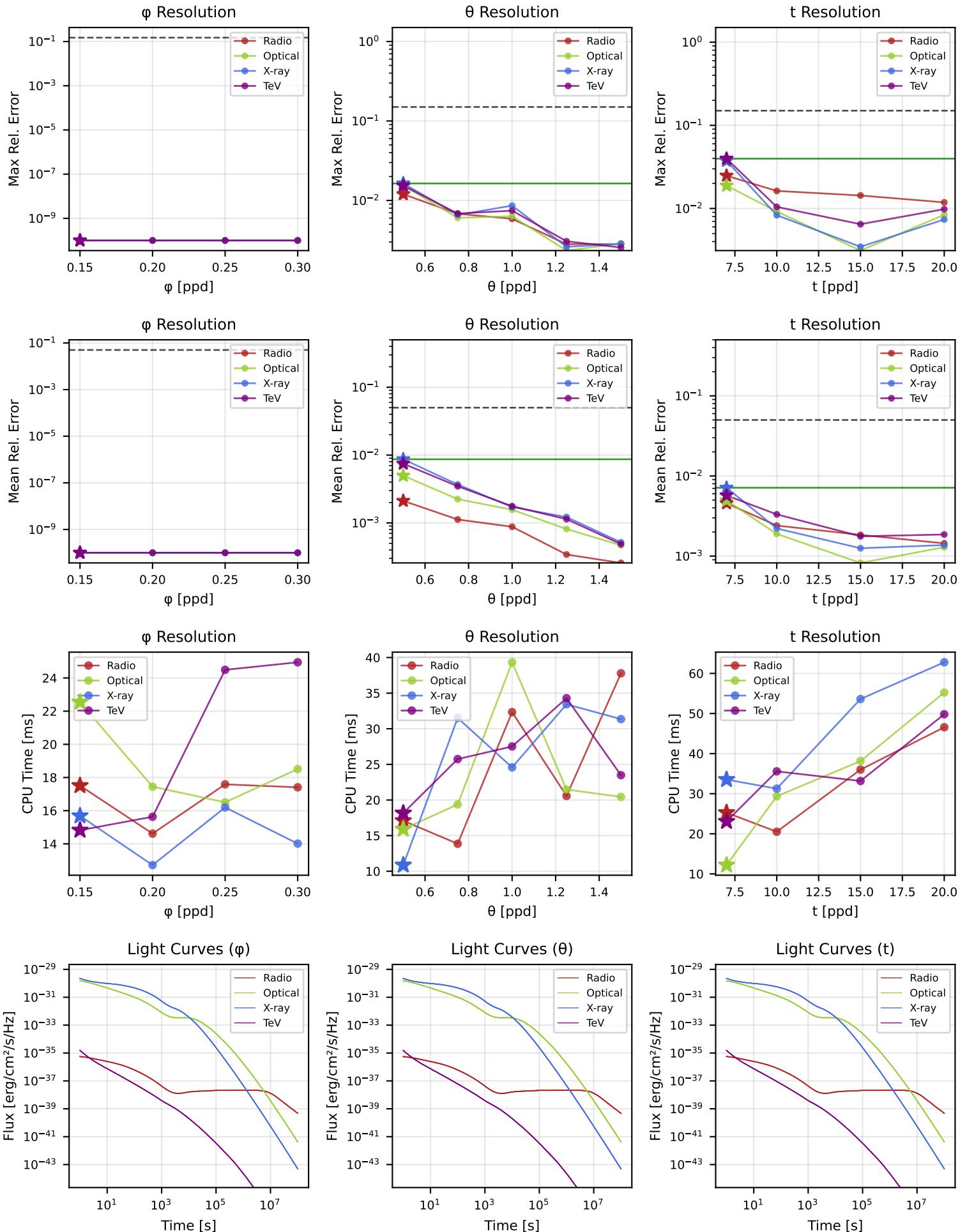
[PASS]

#174: two_component / wind / full_ssc / $\theta_v/\theta_c=4.0$

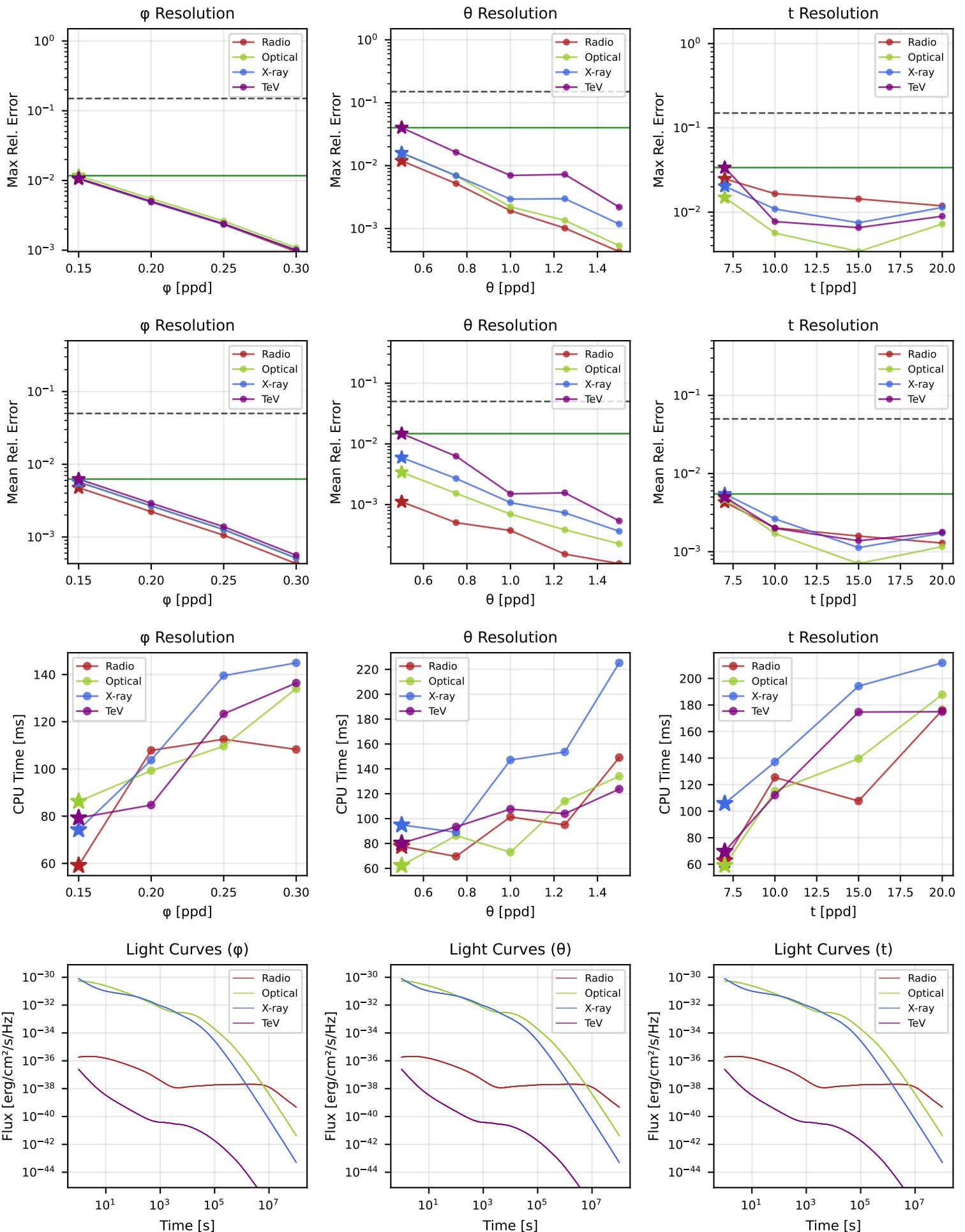


[PASS]

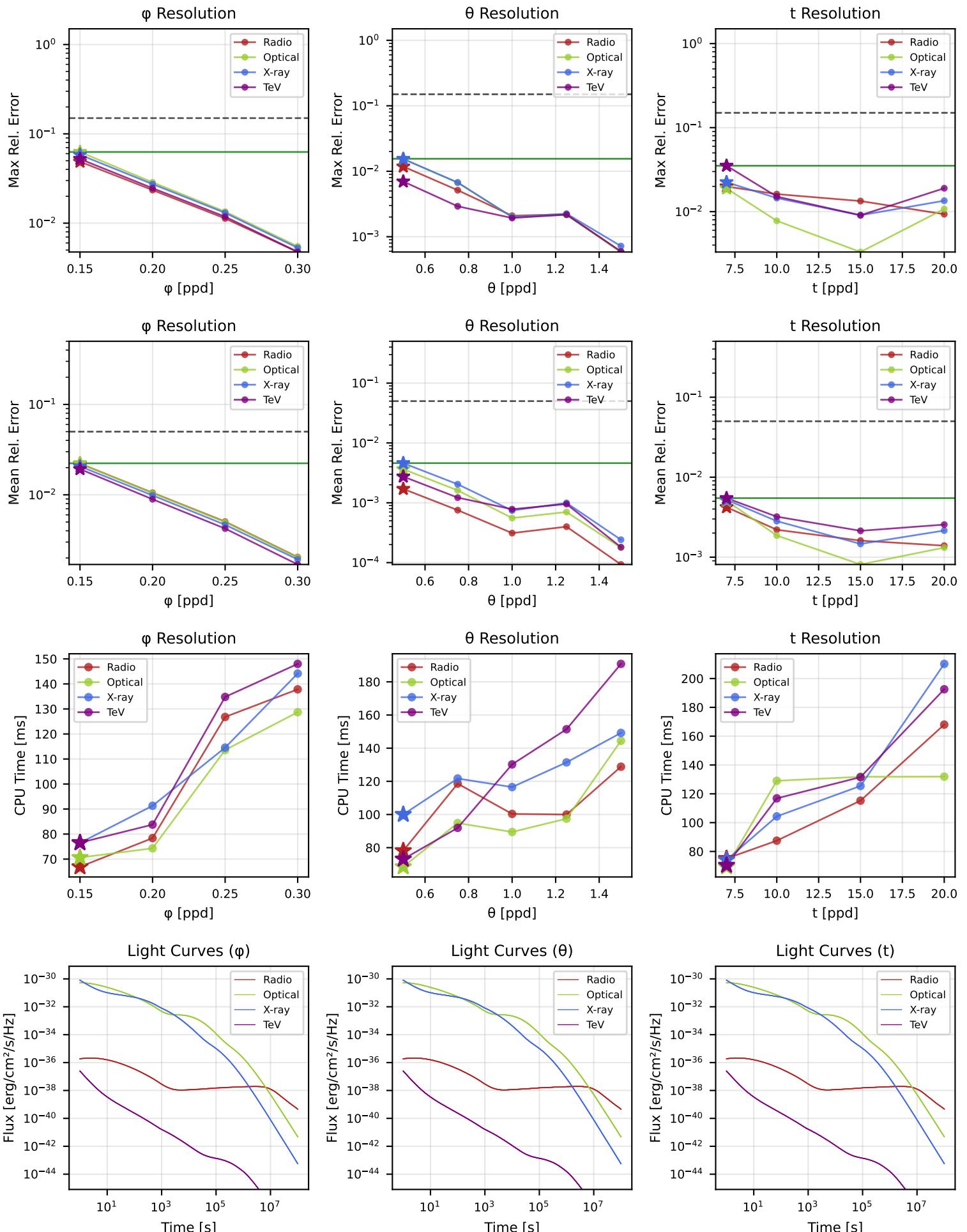
#175: two_component / wind / ssc_kn / $\theta_v/\theta_c=0.0$



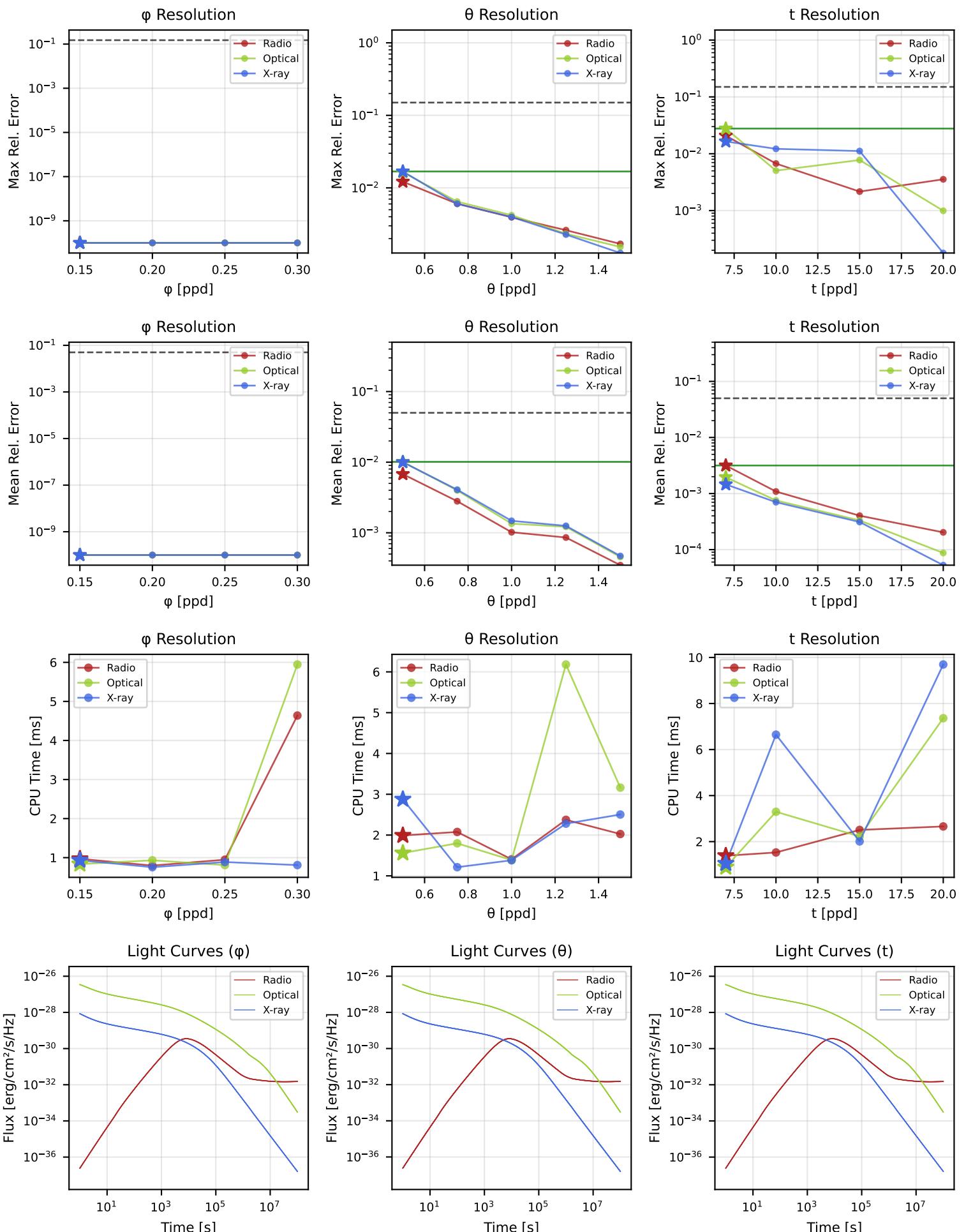
[PASS]

#176: two_component / wind / ssc_kn / $\theta_v/\theta_c=2.0$ 

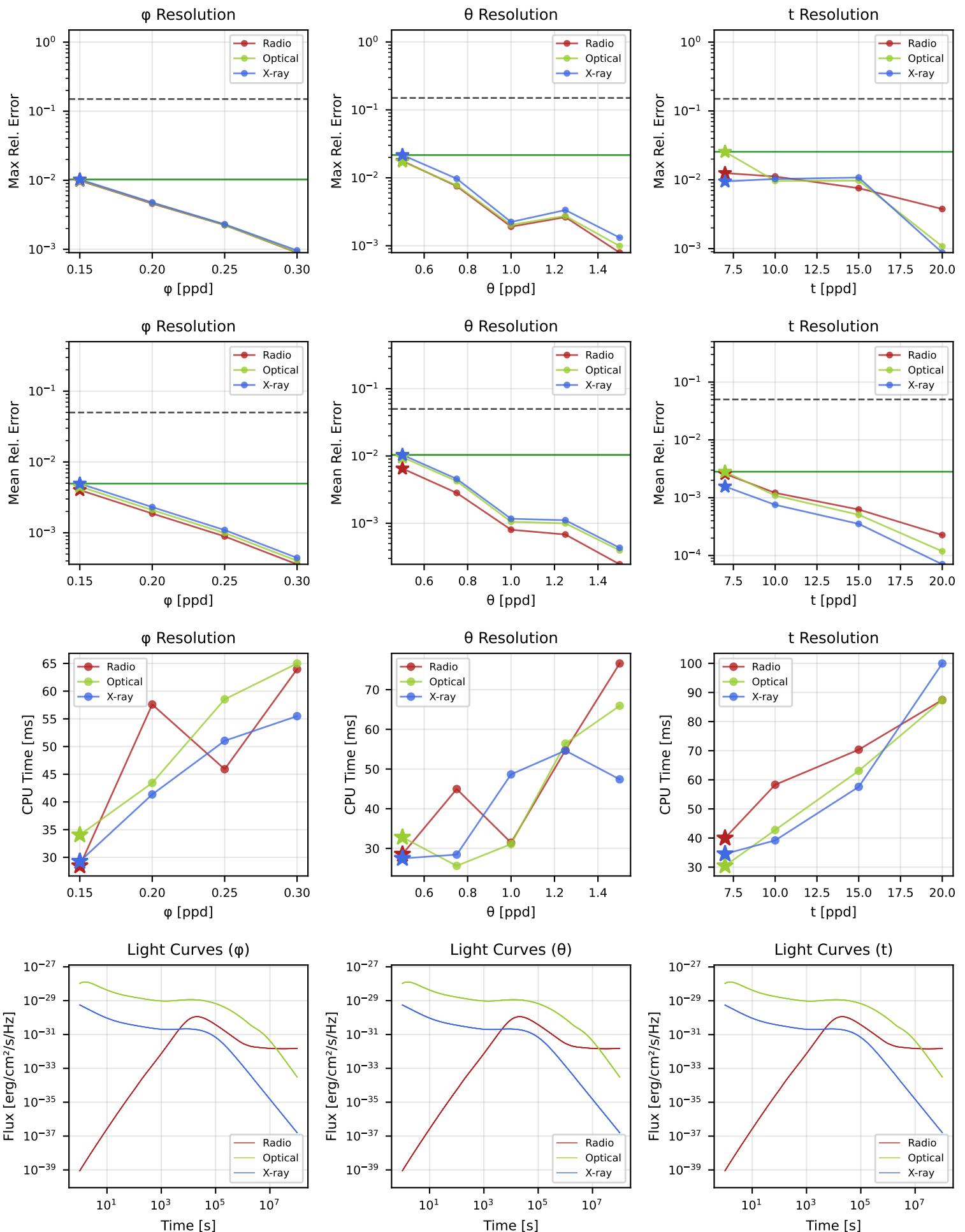
[PASS]

#177: two_component / wind / ssc_kn / $\theta_v/\theta_c=4.0$ 

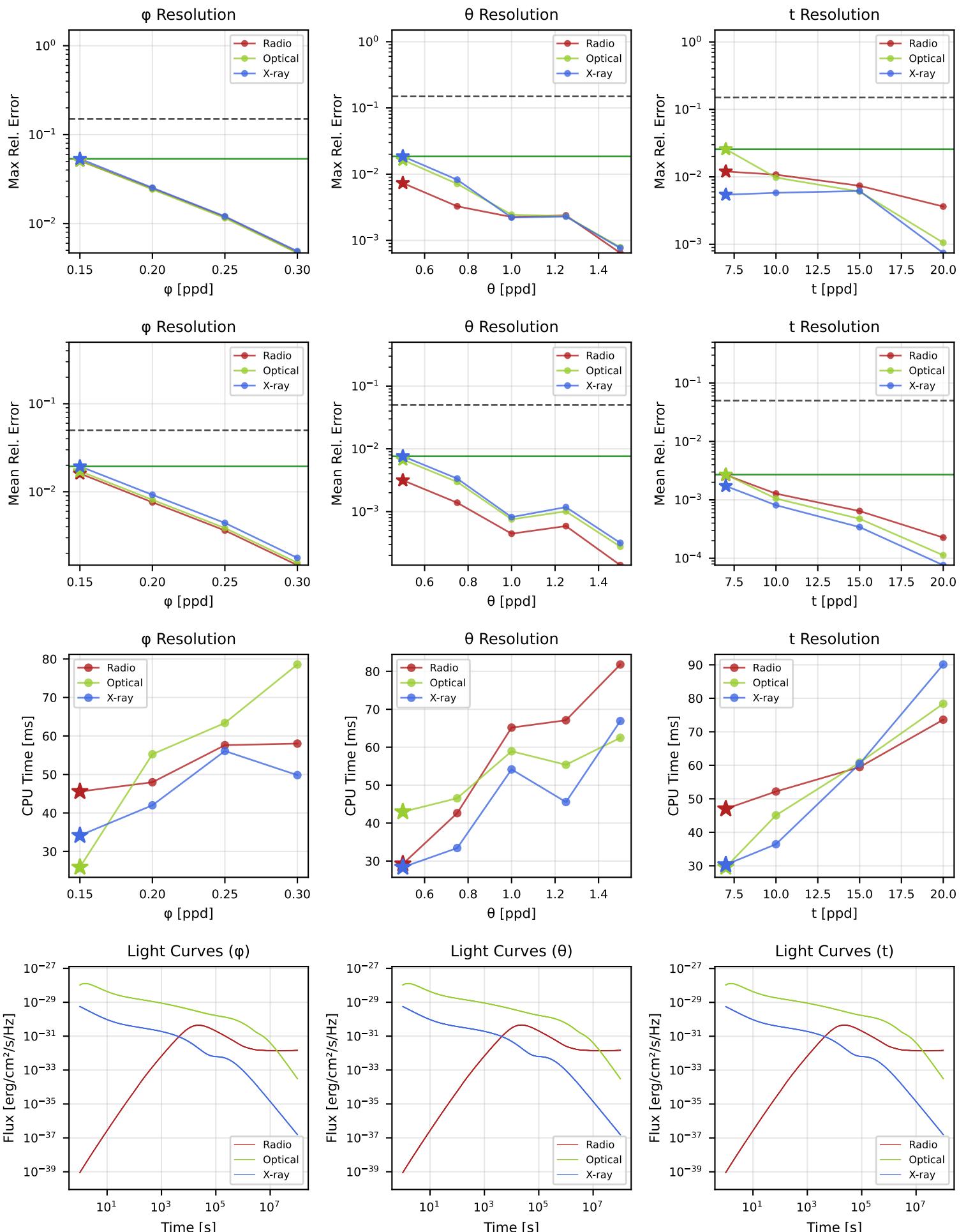
[PASS]

#178: two_component / wind / fast_cooling / $\theta_v/\theta_c=0.0$ 

[PASS]

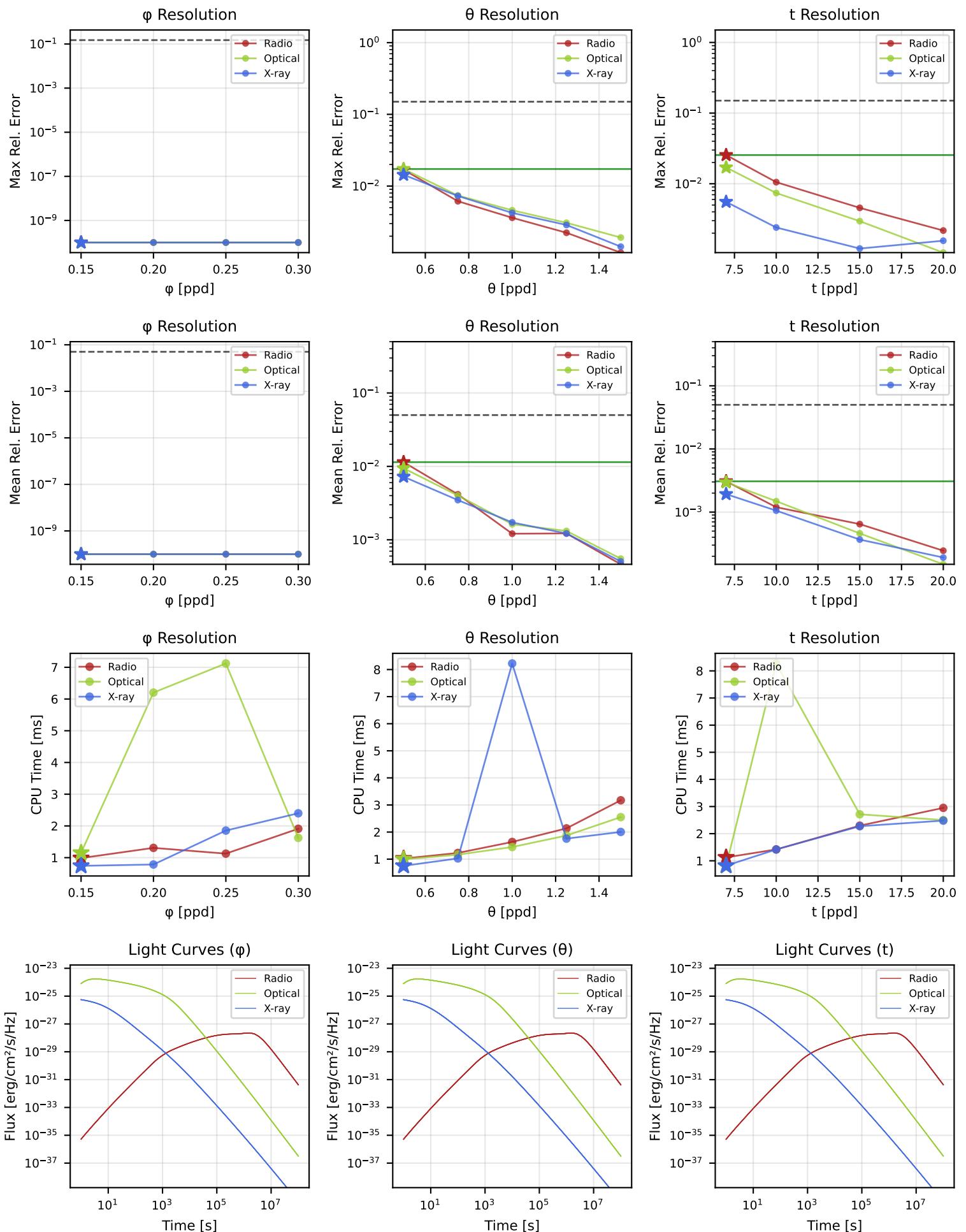
#179: two_component / wind / fast_cooling / $\theta_v/\theta_c=2.0$ 

[PASS]

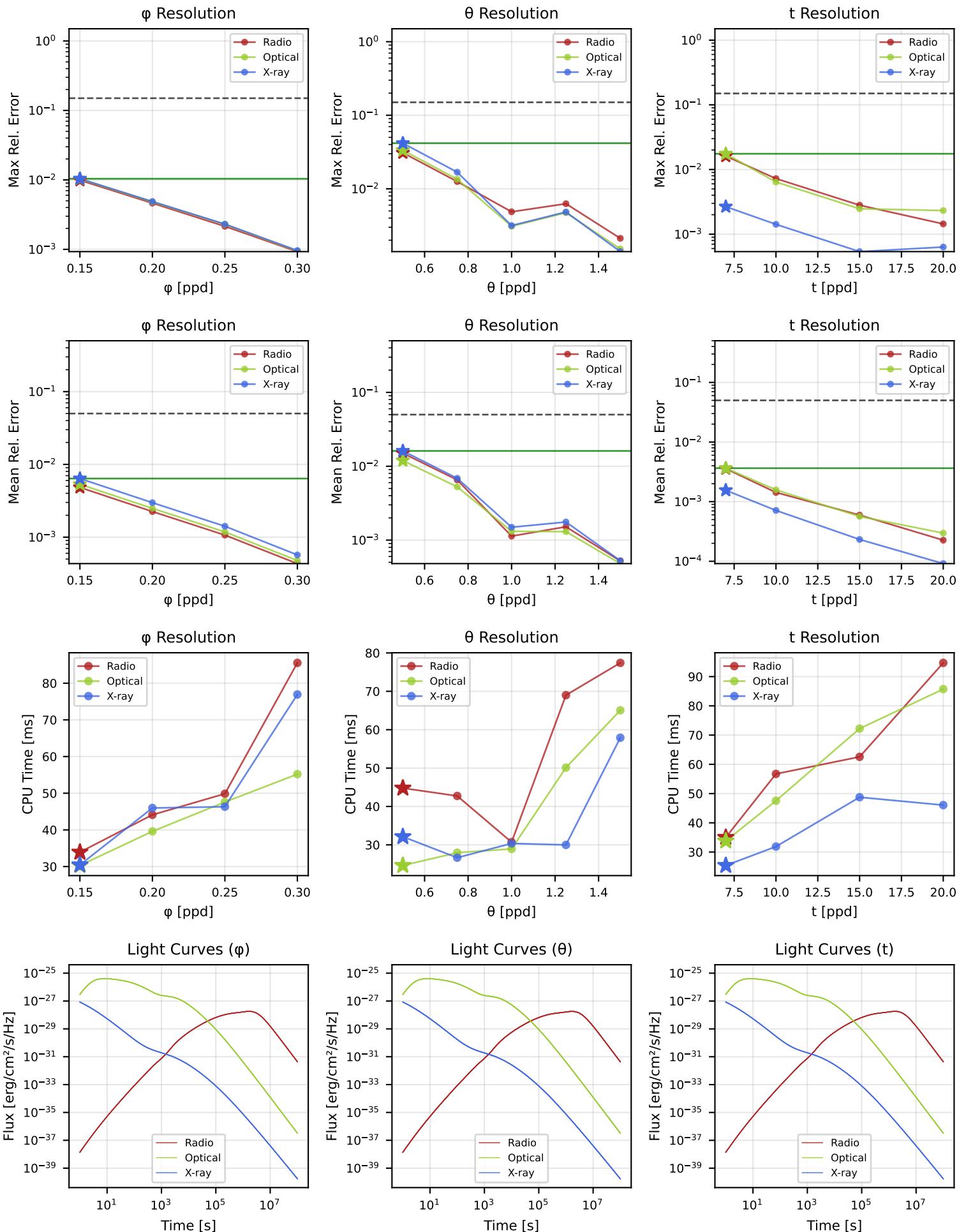
#180: two_component / wind / fast_cooling / $\theta_v/\theta_c=4.0$ 

[PASS]

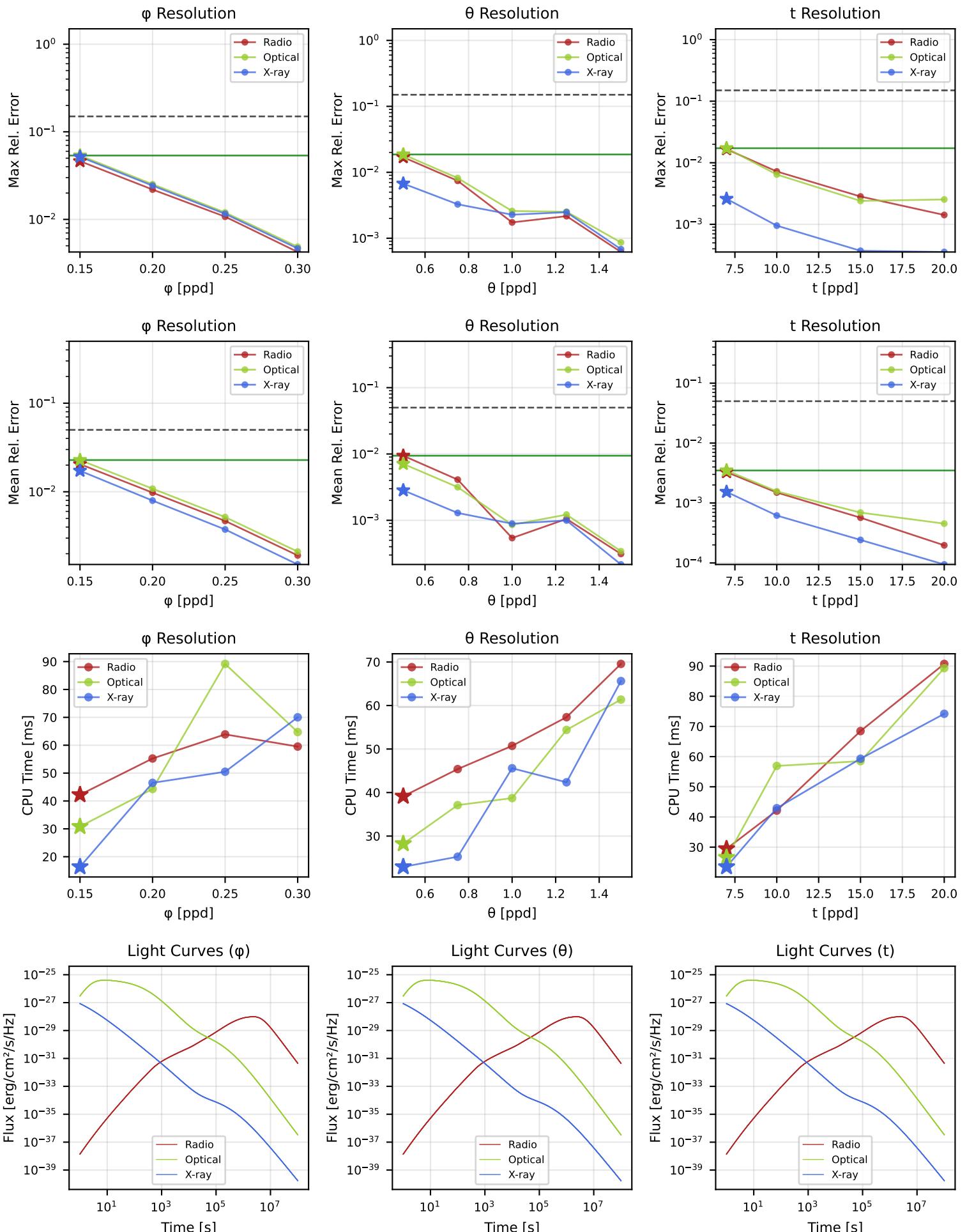
#181: two_component / wind / steep_spectrum / $\theta_v/\theta_c=0.0$



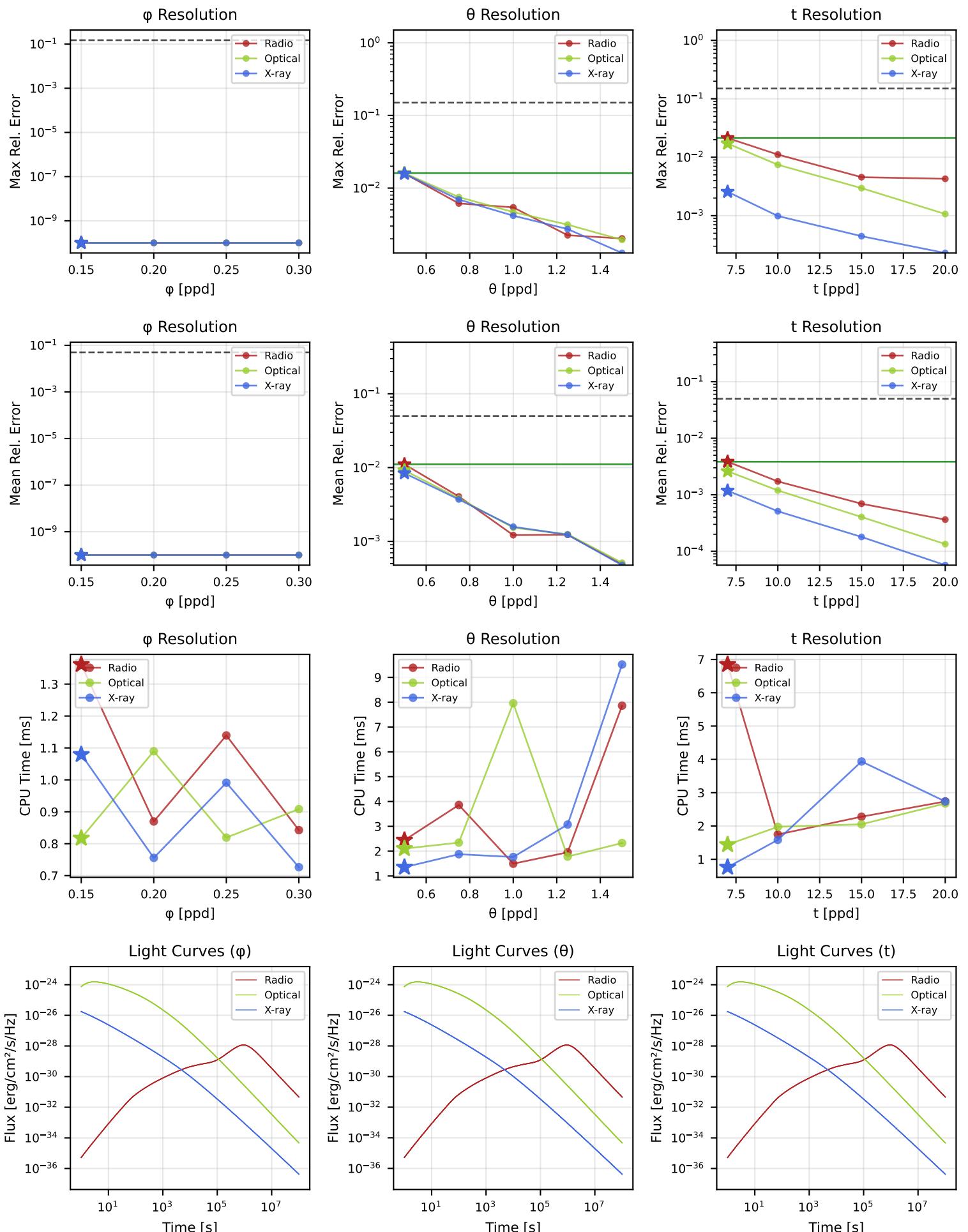
[PASS]

#182: two_component / wind / steep_spectrum / $\theta_v/\theta_c=2.0$ 

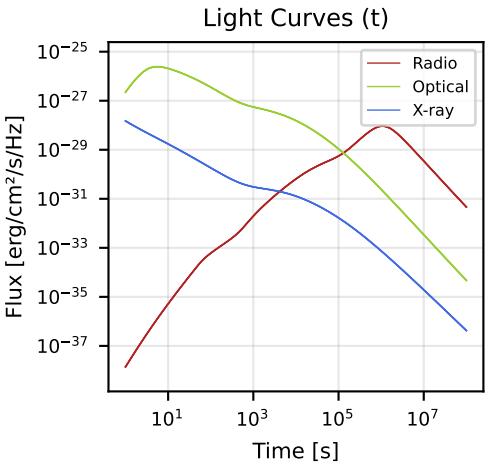
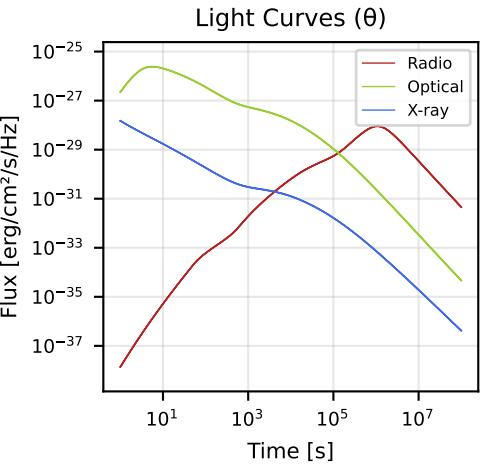
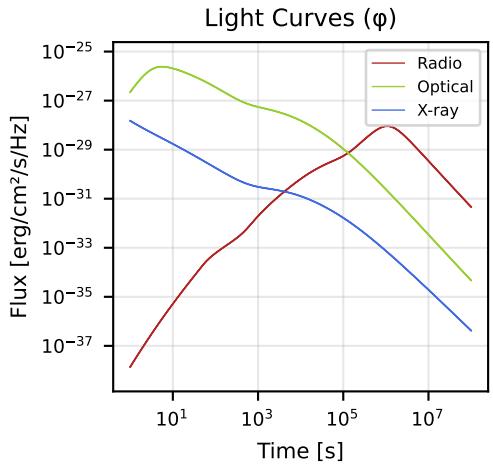
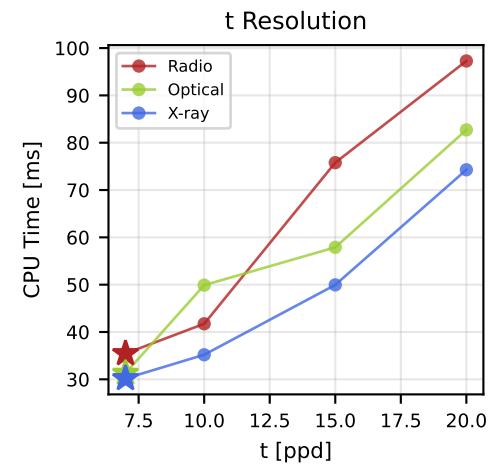
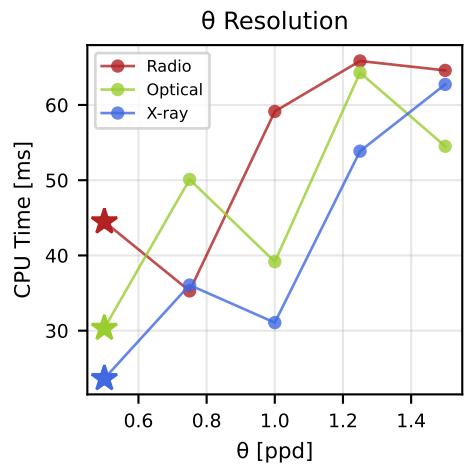
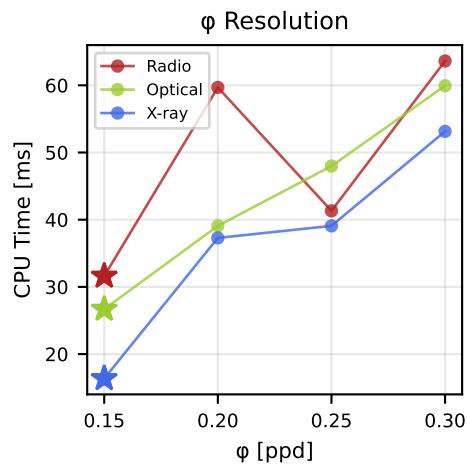
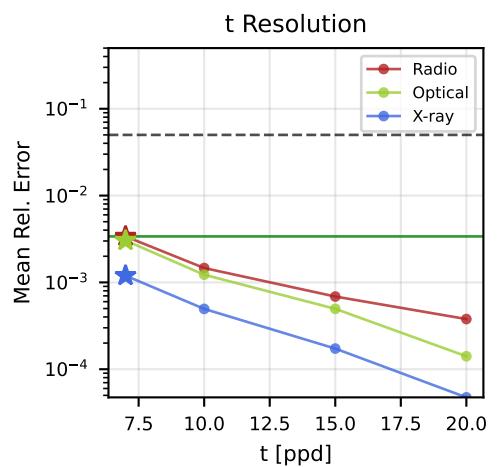
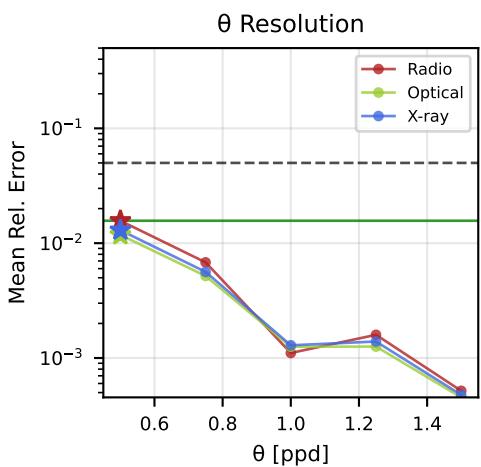
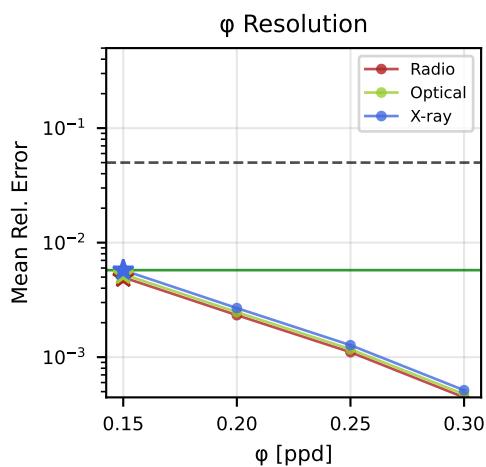
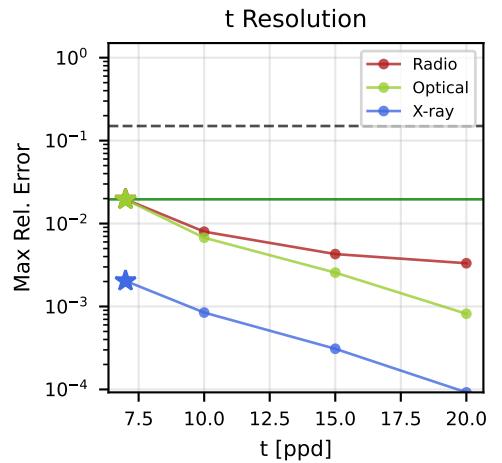
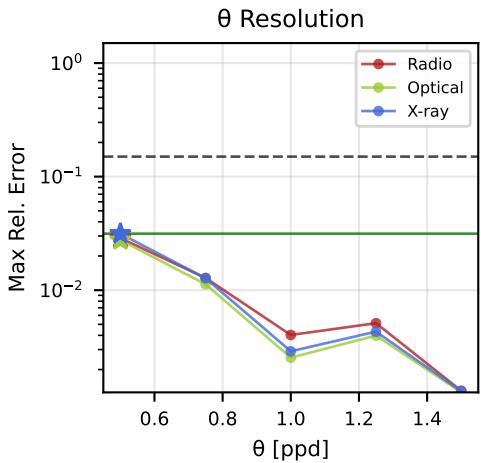
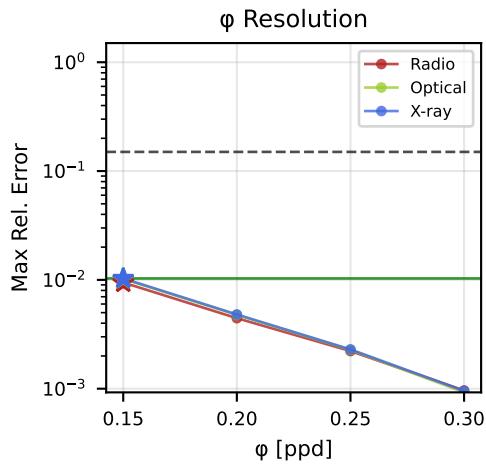
[PASS]

#183: two_component / wind / steep_spectrum / $\theta_v/\theta_c=4.0$ 

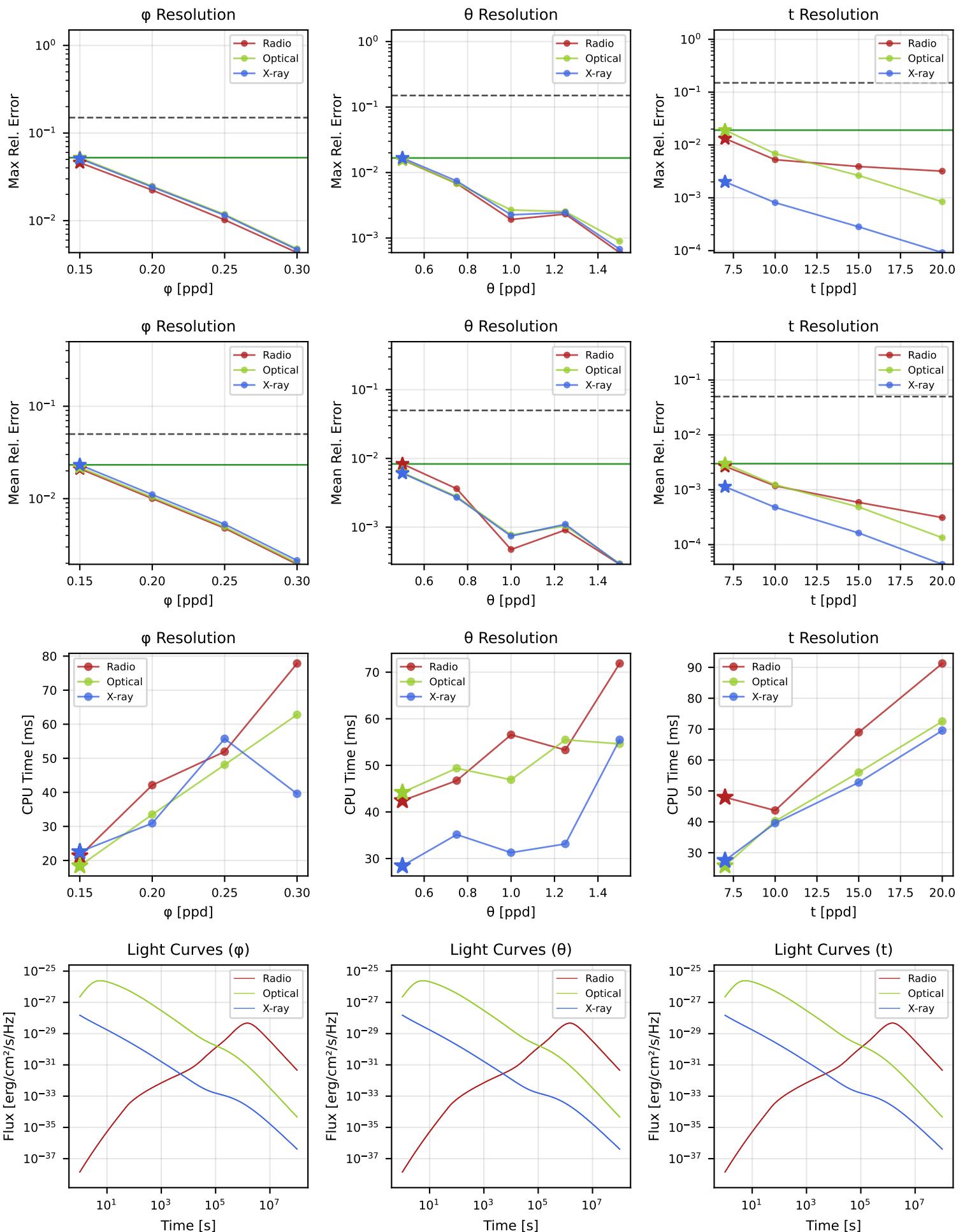
[PASS]

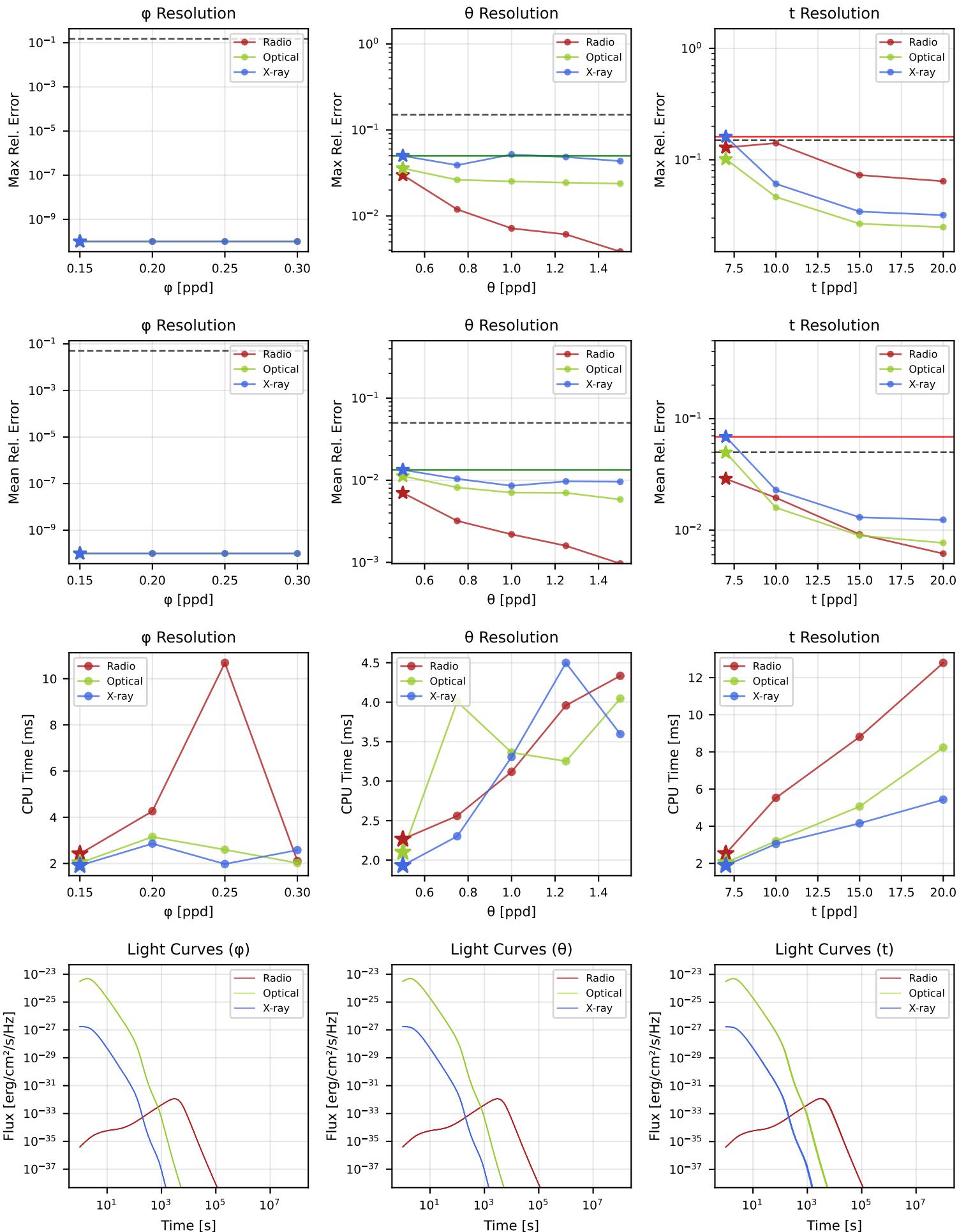
#184: two_component / wind / flat_spectrum / $\theta_v/\theta_c=0.0$ 

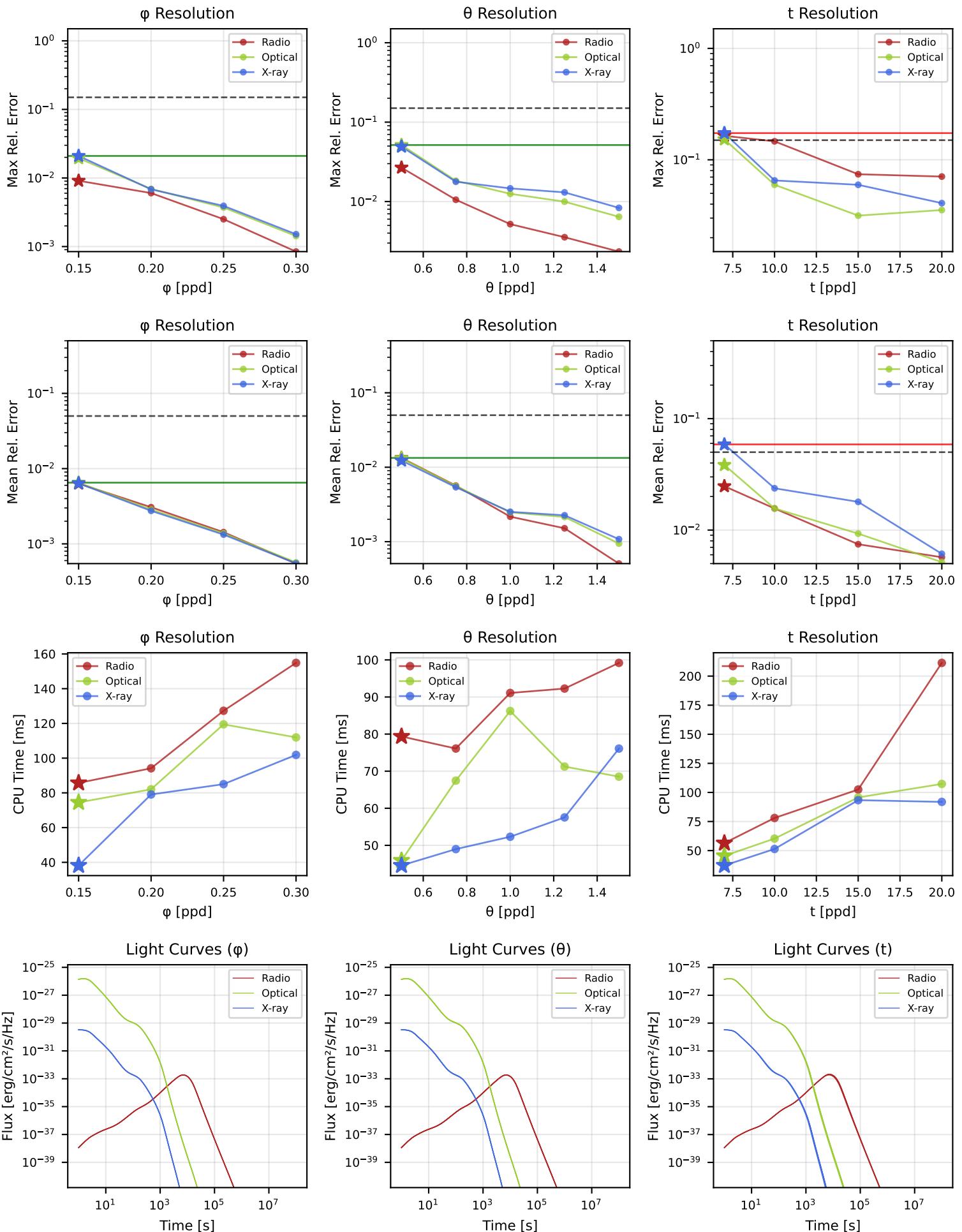
[PASS]

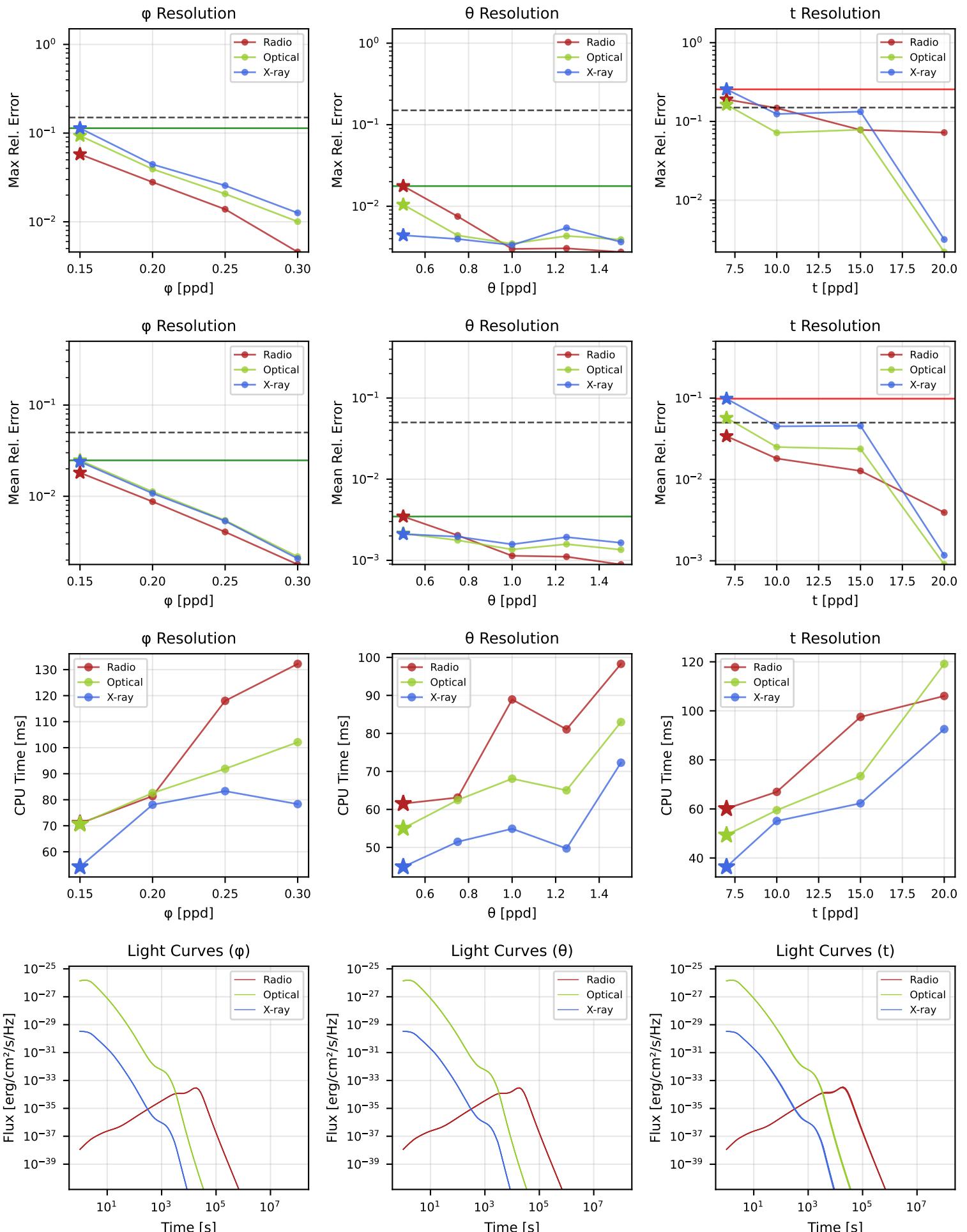
#185: two_component / wind / flat_spectrum / $\theta_v/\theta_c=2.0$ 

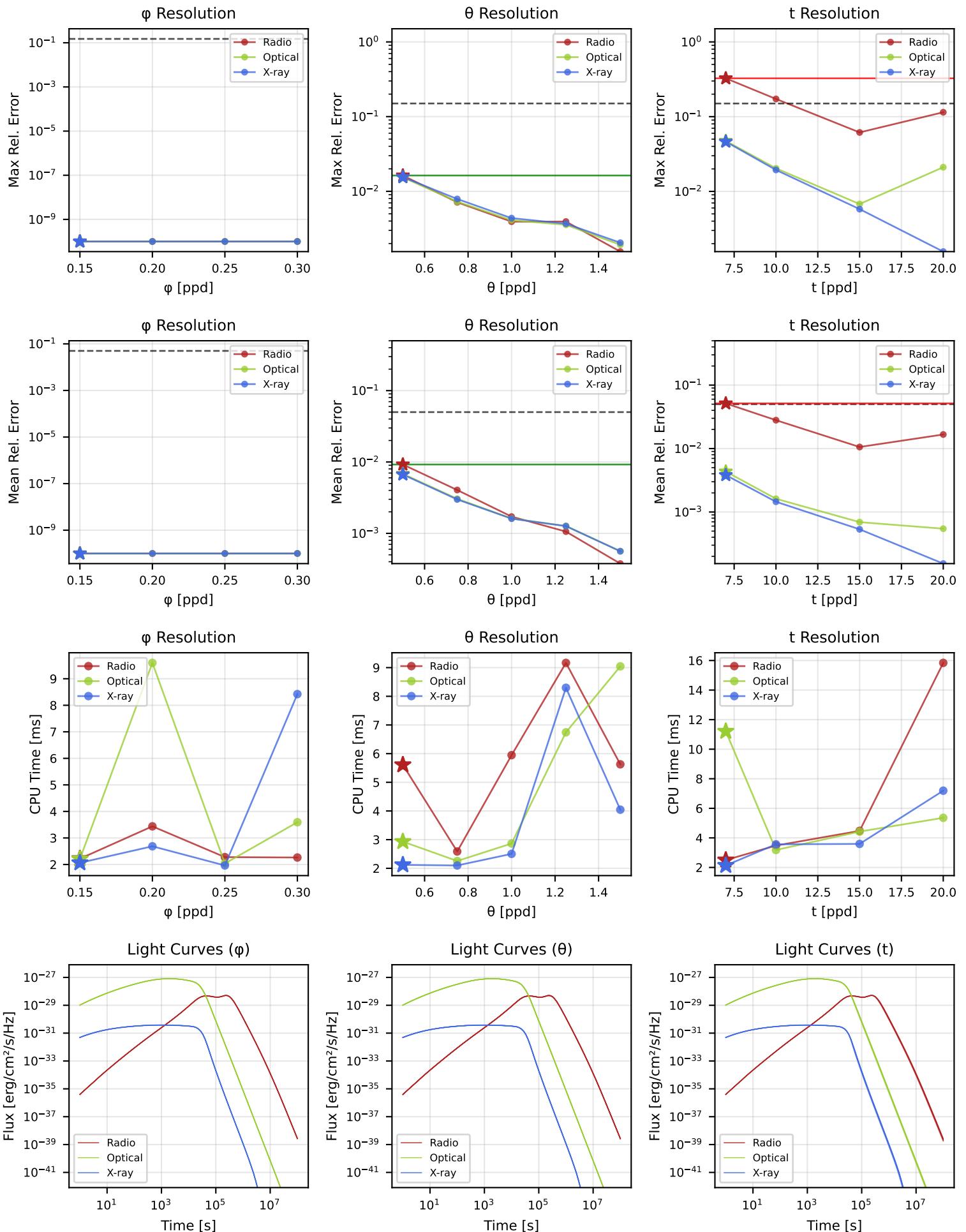
[PASS]

#186: two_component / wind / flat_spectrum / $\theta_v/\theta_c=4.0$ 

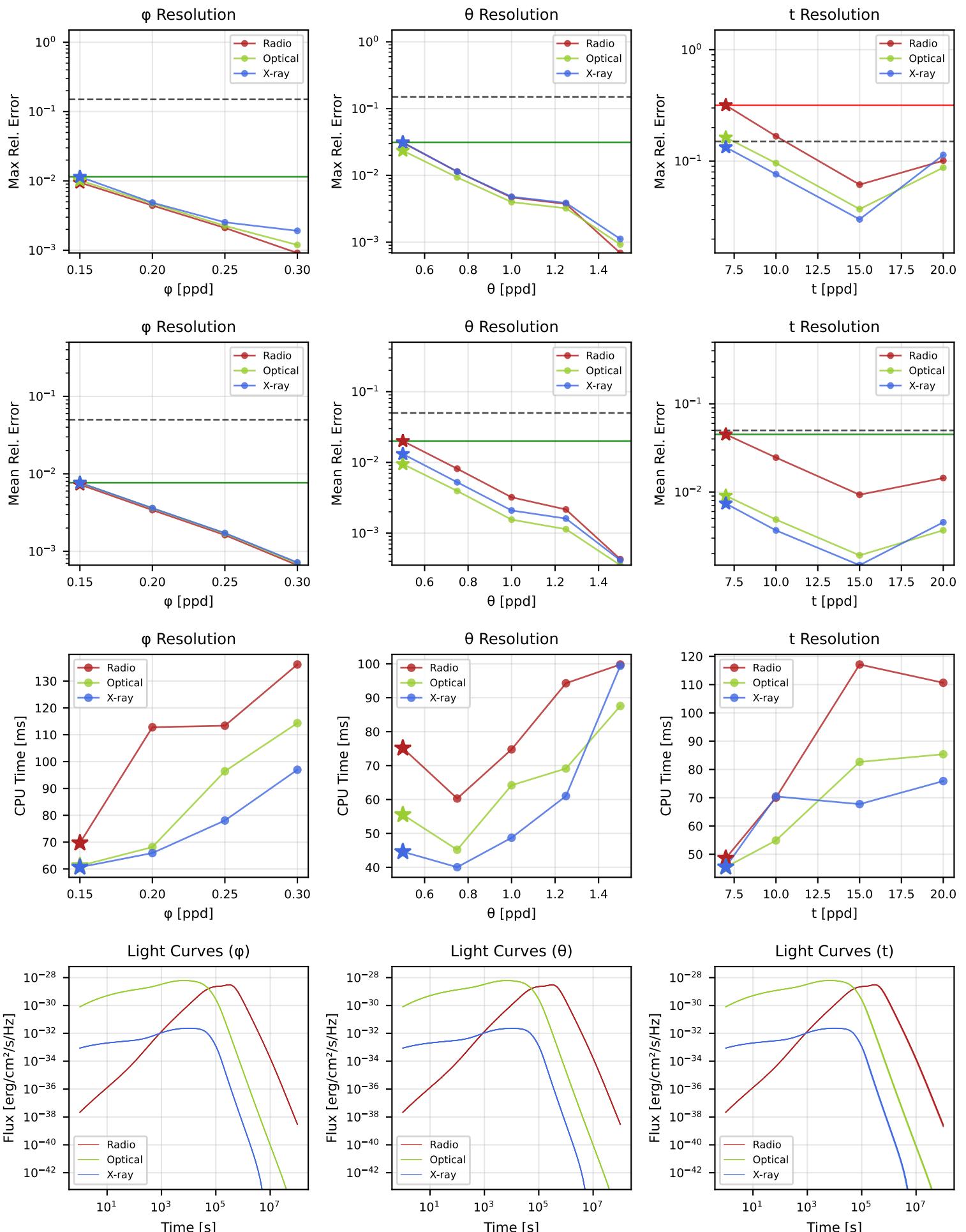
[FAIL]#187: two_component / wind / rvs_sync_thin / $\theta_v/\theta_c=0.0$ 

[FAIL]#188: two_component / wind / rvs_sync_thin / $\theta_v/\theta_c=2.0$ 

[FAIL]#189: two_component / wind / rvs_sync_thin / $\theta_v/\theta_c=4.0$ 

[FAIL]#190: two_component / wind / rvs_sync_thick / $\theta_v/\theta_c=0.0$ 

[ACCEPTABLE] #191: two_component / wind / rvs_sync_thick / $\theta_v/\theta_c=2.0$



[ACCEPTABLE] #192: two_component / wind / rvs_sync_thick / $\theta_v/\theta_c=4.0$

