EXOPLANET ANALYSIS REPORT

Target_1

Date: October 05, 2025

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1. CLASSIFICATION RESULTS

Classification: CANDIDATE
Confidence: 97.9%

Probabilities:
    CONFIRMED: 1.6%
    CANDIDATE: 97.9%
    FALSE POSITIVE: 0.5%

3. INPUT DATA

Transit Features: 53 parameters
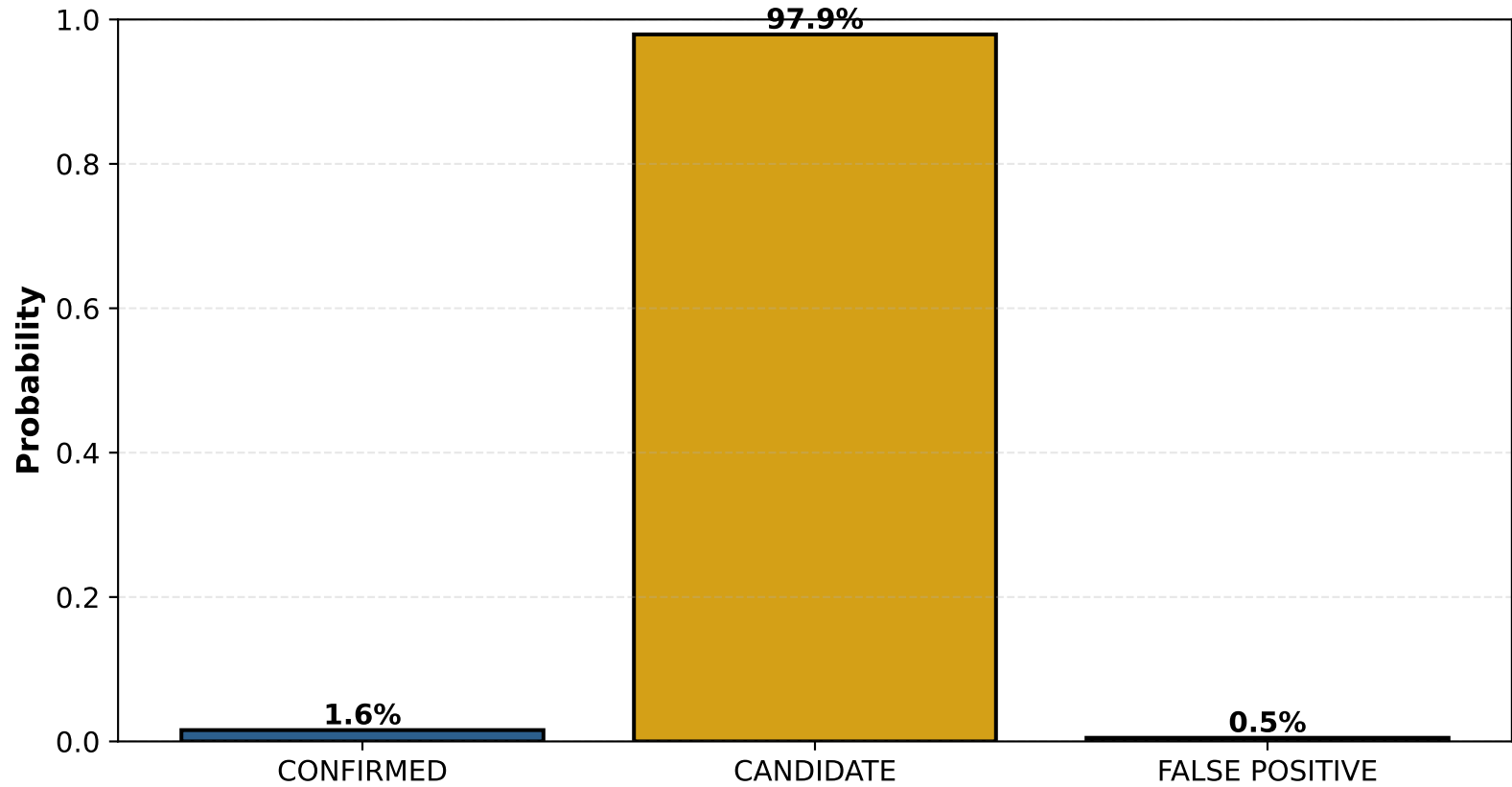Spectrum: Not provided

4. KEY FINDINGS

• Classified as CANDIDATE (97.9% confidence)

OBSERVER NOTES

Data Quality: 100.0% (53/53 features)

CLASSIFICATION ANALYSIS

INTERPRETATION:

Classification: CANDIDATE
Confidence: 97.9%

The transit classifier analyzed the light curve and determined this is most
likely a CANDIDATE.

Model Performance:
• Accuracy: 89.5% on 3,913 test samples
• F1-Score: 88.9%
• Training: 15,652 Kepler candidates

Confidence Guide:
• >90%: High confidence, reliable result
• 70-90%: Moderate, consider follow-up observations
• <70%: Low confidence, uncertain classification

CANDIDATE: Strong transit signal (98%) from light curve analysis

DETAILS & RECOMMENDATIONS

MODEL INFORMATION

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Transit Classifier:
  Type: Stacking Ensemble (RF + XGBoost + LightGBM)
  Accuracy: 89.5%
  F1-Score: 88.9%
  Training: 15,652 Kepler exoplanet candidates
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RECOMMENDATIONS

- Additional transit observations recommended
- Spectroscopic confirmation needed
- Verify with independent photometric data
- Consider for follow-up target list