VI. CONCLUSION

In this study, solar energy emerges as a pivotal contender for future energy sources. A concise examination of solar tracking mechanisms reveals a promising avenue for enhancing solar energy capture while maintaining relatively low operational and maintenance costs. The project focuses on designing and implementing a four-axis solar tracker, utilizing motor satellite dish technology to accurately follow the sun's movement. Additionally, Light Dependent Resistor (LDR) sensors are employed to gauge sunlight intensity. Results indicate that the solar tracking system outperforms fixed solar panels, with energy gains exceeding 35%. Data analysis reveals that energy capture peaks in the morning and evening, showcasing the system's effectiveness throughout the day. This underscores the efficiency of dual-axis solar tracking systems, which offer versatility in placement and ensure consistently high energy yields.

VII. REFERENCES

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