The review report from reviewer #1:  
  
\*1: Is the paper relevant to ICDM?  
 [\_] No  
 [X] Yes  
  
\*2: How innovative is the paper?  
 [\_] 6 (Very innovative)  
 [X] 3 (Innovative)  
 [\_] -2 (Marginally)  
 [\_] -4 (Not very much)  
 [\_] -6 (Not at all)  
  
\*3: How would you rate the technical quality of the paper?  
 [X] 6 (Very high)  
 [\_] 3 (High)  
 [\_] -2 (Marginal)  
 [\_] -4 (Low)  
 [\_] -6 (Very low)  
  
\*4: How is the presentation?  
 [X] 6 (Excellent)  
 [\_] 3 (Good)  
 [\_] -2 (Marginal)  
 [\_] -4 (Below average)  
 [\_] -6 (Poor)  
  
\*5: Is the paper of interest to ICDM users and practitioners?  
 [X] 3 (Yes)  
 [\_] 2 (May be)  
 [\_] 1 (No)  
 [\_] 0 (Not applicable)  
  
\*6: What is your confidence in your review of this paper?  
 [X] 2 (High)  
 [\_] 1 (Medium)  
 [\_] 0 (Low)  
  
\*7: Overall recommendation  
 [X] 6: must accept (in top 25% of ICDM accepted papers)  
 [\_] 3: should accept (in top 80% of ICDM accepted papers)  
 [\_] -2: marginal (in bottom 20% of ICDM accepted papers)  
 [\_] -4: should reject (below acceptance bar)  
 [\_] -6: must reject (unacceptable: too weak, incomplete, or wrong)  
  
\*8: Summary of the paper's main contribution and impact  
 This paper addresses the urgent need of accurate carbon emission forecasting and thus proposes a dynamic spatial-temporal model for China provincial carbon emission prediction. The proposed model can formulate carbon emission forecasting as a spatial-temporal time-series prediction problem to analyze the interaction between provincial carbon emissions. The two features of this model include leveraging the dynamic correlation among provinces, and capturing the dependency of carbon emissions with natural factors. Exhaustive experimental analysis justifies the effectiveness of the proposed model and the importance of the spatial-temporal setup in carbon emission prediction.  
  
\*9: Justification of your recommendation  
 This study proposes a spatial-temporal model based on dynamic adjacency graph convolution and recurrent networks in the background of carbon emission prediction for Chinese provinces. The proposed model demonstrates its ability to capture dynamic correlations among provinces and carbon emission dependencies within each province over time. In the empirical evaluation, the excellent performance of the proposed model is demonstrated by comparing with traditional statistical and machine learning models in predicting carbon emissions of China’s provinces.  
  
\*10: Three strong points of this paper (please number each point)  
 1. This paper shows a successful application of spatial-temporal time-series models on carbon emission prediction.  
2. The proposed model has a unique ability of capturing natural factors in carbon emission prediction.  
3. The proposed model surpasses all baseline models and all variants in performance and robustness.  
  
\*11: Three weak points of this paper (please number each point)  
 1. Some policy-related factors could be considered in the proposed carbon emission prediction model.  
2. It is recommended to provide more precise results in the unit of provinces when comparing with other existing models.  
3. In addition to the traditional models, some recent models should be introduced for model validation.  
  
\*12: Is this submission among the best 10% of submissions that you reviewed for ICDM'23?  
 [\_] No  
 [X] Yes  
  
\*13: Are the datasets used in the study correctly identified and referenced?  
 [X] 3 Yes  
 [\_] 2 Partial  
 [\_] 1 No  
 [\_] 0 Not applicable  
  
\*14: If the authors use private data in the experiments, will they publish data for public access in the camera-ready version of the paper?  
 [\_] 3 Yes  
 [\_] 2 Partial  
 [\_] 1 No  
 [X] 0 Not applicable  
  
\*15: Are the competing methods used in the study correctly identified and referenced?  
 [X] 3 Yes  
 [\_] 2 Partial  
 [\_] 1 No  
 [\_] 0 Not applicable  
  
\*16: Will the authors publish their source code for public access in the camera-ready version of the paper?  
 [\_] 3 Yes  
 [\_] 2 Partial  
 [X] 1 No  
 [\_] 0 Not applicable  
  
\*17: Is the experimental design detailed enough to allow for reproducibility? (You can also include comments on reproducibility in the body of your review.)  
 [X] 3 Yes  
 [\_] 2 Partial  
 [\_] 1 No  
 [\_] 0 Not applicable  
  
\*18: If the paper is accepted, which format would you suggest?  
 [X] Regular Paper  
 [\_] Short Paper  
  
\*19: Detailed comments for the authors  
 1. For the prediction of carbon emissions, it is suggested to consider some policy influencing factors, e.g., environmental regulation, carbon mission efficiency, and cost investment.  
2. Section II provides a detailed literature review of this paper. However, some brief summaries should be given to explain the motivations of this work comparing to existing studies.  
3. Does this work construct an independent model for each province? If so, it is better to show the results in the unit of provinces when comparing with other existing models.  
4. There are some minor issues and typos, for example:  
1) Please provide line numbers and page numbers.  
2) In line 5 of P2, “take the interaction between provinces into consideration” should be “take into consideration the interaction between provinces”.  
3) In line 2 of P7, “[47, VAR]” should be “(VAR)[47]”  
4) What does each line represent in Fig. 2?  
5) Please use a better reference format to avoid too many coauthors, like [45], [46].