\*1: Is the paper relevant to ICDM?  
 [\_] No  
 [X] Yes  
  
\*2: How innovative is the paper?  
 [\_] 6 (Very innovative)  
 [\_] 3 (Innovative)  
 [\_] -2 (Marginally)  
 [X] -4 (Not very much)  
 [\_] -6 (Not at all)  
  
\*3: How would you rate the technical quality of the paper?  
 [\_] 6 (Very high)  
 [\_] 3 (High)  
 [X] -2 (Marginal)  
 [\_] -4 (Low)  
 [\_] -6 (Very low)  
  
\*4: How is the presentation?  
 [\_] 6 (Excellent)  
 [X] 3 (Good)  
 [\_] -2 (Marginal)  
 [\_] -4 (Below average)  
 [\_] -6 (Poor)  
  
\*5: Is the paper of interest to ICDM users and practitioners?  
 [\_] 3 (Yes)  
 [X] 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  
 [\_] 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)  
 [X] -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  
 The paper introduces a novel approach for accurate carbon emissions forecasting, addressing the limitations of traditional methods. The proposed Dynamic Spatial-Temporal Graph Convolutional Recurrent Network (DSTGCRN) combines graph convolutional network (GCN) and recurrent neural network (RNN) structures to effectively model spatial-temporal correlations. By formulating carbon emission prediction as a spatial-temporal time-series problem and incorporating dynamic correlations between locations (provinces) over different time steps, the DSTGCRN was shown to outperform other baseline models. The research highlights the significance of the spatial-temporal setup for carbon emissions prediction, which can significantly contribute to global emissions reduction goals.  
  
\*9: Justification of your recommendation  
 While the paper clearly states the motivation and challenges, it is somewhat incremental in terms of novelty in its methodology as it simply builds upon the Adaptive Graph Convolutional Recurrent Network (AGCRN) framework. The experimental evaluation is also insufficient as it considers only one dataset for assessment, which makes it unclear how generalizable are their results. Comparing simpler baseline methods (e.g., VA, SVR, MLP, FC-LSTM) may not be sufficient to demonstrate the advantages of their complex deep learning model. To draw robust conclusions, the proposed model should be compared against a more diverse set of baseline methods. The clarity of how the hyper-parameters is tuned remains unclear. The complexity of the proposed model, compounded by the involvement of numerous parameters and the discretization of node embeddings for each time step, also raises concerns about its practicality and potential overfitting issues, which the authors had raised in their  
introduction.  
  
\*10: Three strong points of this paper (please number each point)  
 1. The paper demonstrates a commendable clarity in presenting its motivation and challenges, which revolves around the crucial necessity for accurate carbon emissions forecasting to support global emissions reduction goals.  
2. By effectively capturing intricate correlations and interactions between China's provinces, including the dynamic correlations over different time steps, the DSTGCRN demonstrates its ability to account for natural factors' influence on carbon emissions, such as weather and seasonal variations.  
3. Results show significant improvement over other baseline methods.  
  
\*11: Three weak points of this paper (please number each point)  
 1. Incremental Contribution: The paper's main weakness lies in its incremental nature concerning novelty. While it introduces the Dynamic Spatial-Temporal Graph Convolutional Recurrent Network (DSTGCRN), the model's core elements heavily rely on the Adaptive Graph Convolutional Recurrent Network (AGCRN) backbone, with limited advancements beyond it. This lack of substantial novelty weakens the paper's overall contribution.  
2. Limited Experimental Evaluation: Another weakness is the paper's limited experimental evaluation. It only considers a single dataset, providing insufficient comparative analysis against diverse baseline methods. The choice of simplistic baseline methods further hinders a comprehensive assessment of the model's true potential and performance.  
3. Complex Model and Parameterization: In the introduction, the authors motivated their approach by stating the susceptibility of existing neural network approaches to overfitting. Yet the proposed DSTGCRN model exhibits substantial complexity, raising concerns about its practicality and generalization ability. With a significant number of parameters involved, there is a risk of overfitting and computational burden. These issues are not sufficiently discussed in the paper. Additionally, the discretization of node embeddings for each time step may exacerbate these challenges, potentially undermining the model's real-world applicability.  
  
\*12: Is this submission among the best 10% of submissions that you reviewed for ICDM'23?  
 [X] No  
 [\_] 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.)  
 [\_] 3 Yes  
 [\_] 2 Partial  
 [X] 1 No  
 [\_] 0 Not applicable  
  
\*18: If the paper is accepted, which format would you suggest?  
 [\_] Regular Paper  
 [X] Short Paper  
  
\*19: Detailed comments for the authors  
 The authors should take note of several shortcomings, as outlined in the following details:  
1. The primary weakness of the paper lies in its lack of significant novelty, particularly in terms of its incremental approach. Although the introduction of the Dynamic Spatial-Temporal Graph Convolutional Recurrent Network (DSTGCRN) is notable, it's evident that the foundational elements of the model heavily rely on the Adaptive Graph Convolutional Recurrent Network (AGCRN) backbone. This reliance on existing architecture limits the extent of innovation presented in the paper, thereby diminishing its overall contribution to the field.  
2. Another notable drawback pertains to the scope of the experimental evaluation conducted. The evaluation of the proposed DSTGCRN is confined to a single dataset, which substantially curtails the robustness of the findings. A more comprehensive analysis involving a diverse range of baseline methods is imperative to establish the comparative performance and potential advantages of the DSTGCRN model. Moreover, the selection of simplistic baseline methods further restricts the depth of the assessment, hindering a thorough understanding of the model's capabilities.  
3. The complexity introduced by the DSTGCRN model raises practical concerns regarding its viability and generalizability. The substantial number of parameters utilized in the model design introduces a potential risk of overfitting and adds to the computational burden. Additionally, the discretization of node embeddings for each time step introduces another layer of complexity that could impede the model's applicability in real-world scenarios.  
4. There are some typos: “Albation” in multiple places of Section V. F., “Sepcific” Table III, “etcs” in problem statement etc.