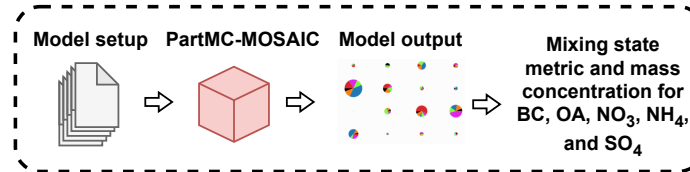
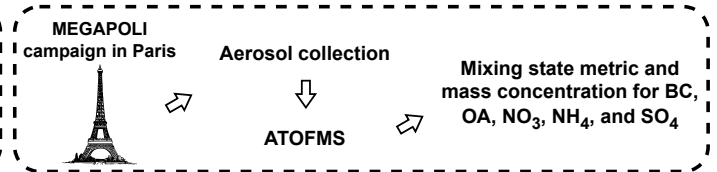


## (a) Data Preparation for Pre-training (b) and Fine-tuning (c)

### (1) Pre-training dataset

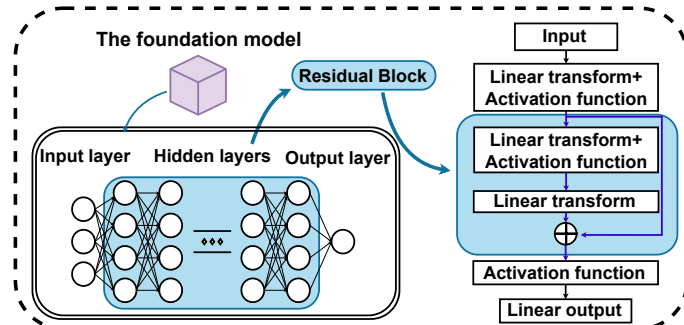


### (2) Fine-tuning dataset

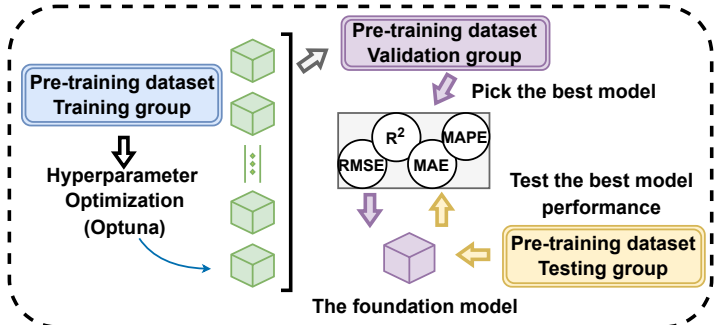


## (b) The Pre-trained Foundation Model

### (1) The Pre-trained Foundation Model Architecture

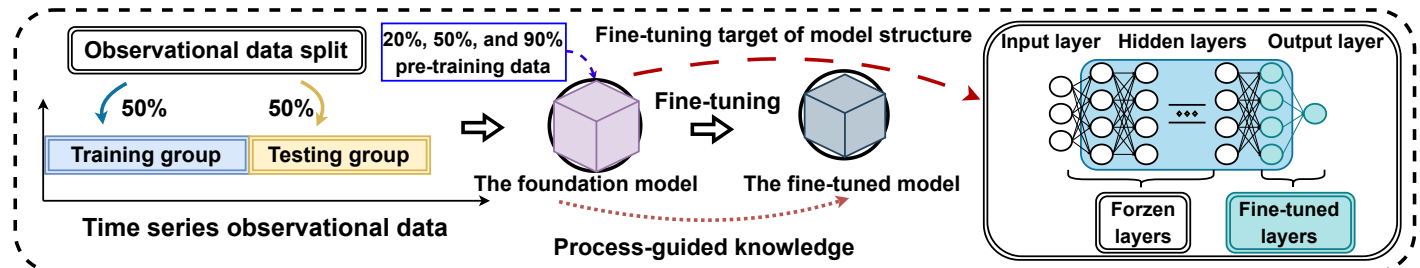


### (2) The Pre-trained Foundation Model Development

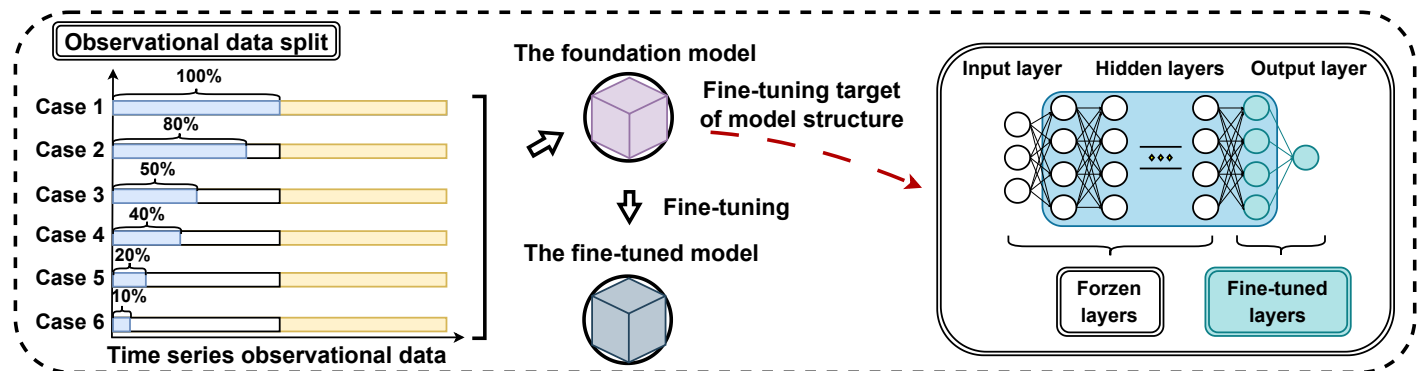


## (c) The Pre-trained Foundation Model Fine-tuning

### (1) Fine-tuning the Pre-trained Foundation Model



### (2) Effect of Data Sparsity or Abundance



### (3) Features sensitivity analysis

