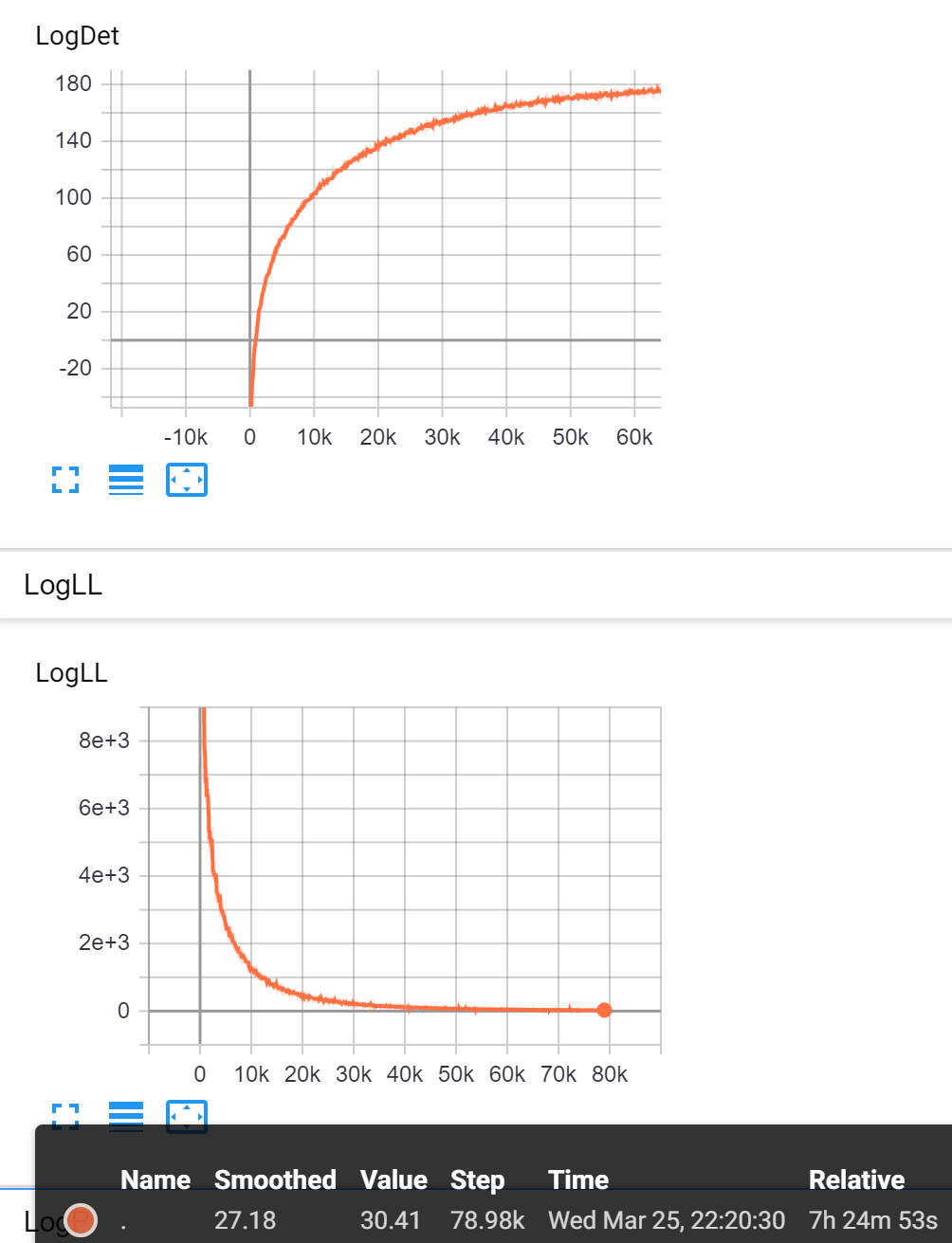
**DNF**

**实验1 2020.3.24**

Realnvp block=10 hidden=512 input=120 cond\_dim=120 var=1 & 1k

****

**训练集在隐空间高斯性**

*skew = 0.0031436711142305285 kurt = -1.1428269232454675*

**测试集在隐空间高斯性**

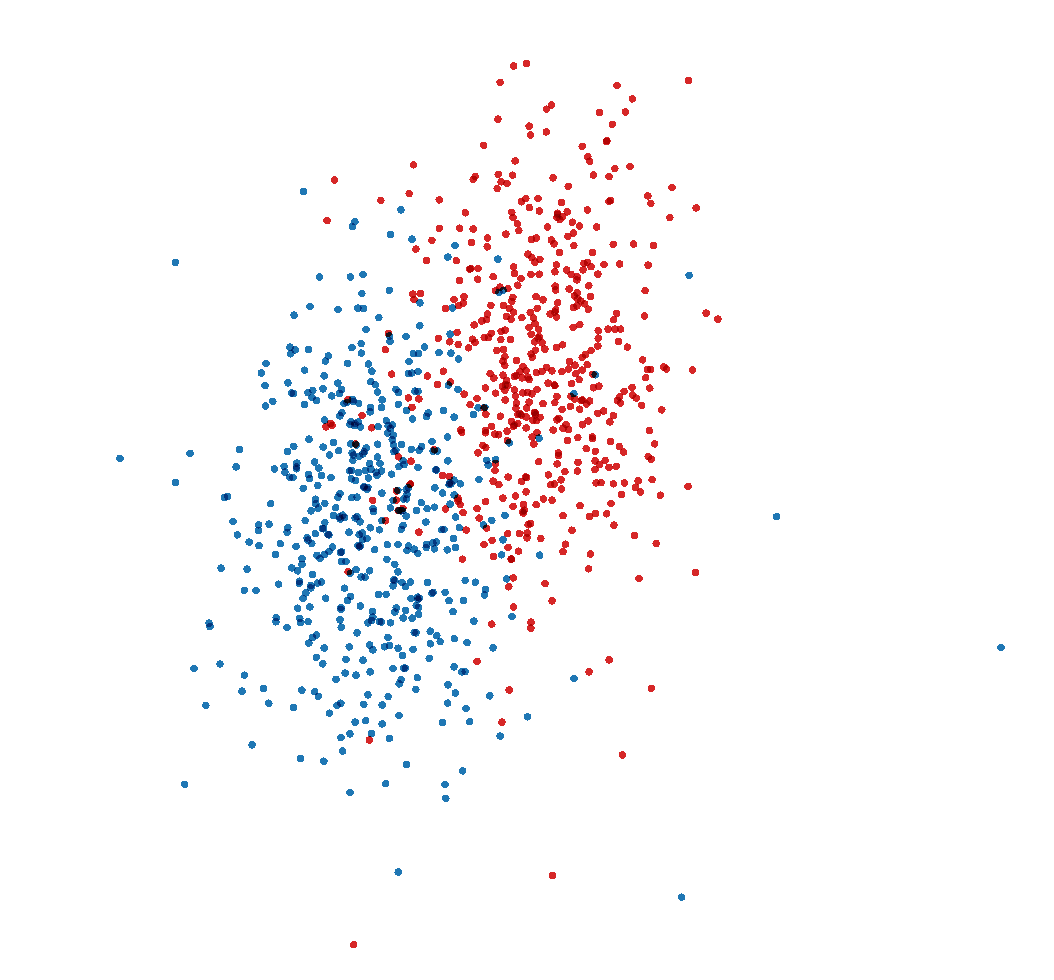
wsj+ce:

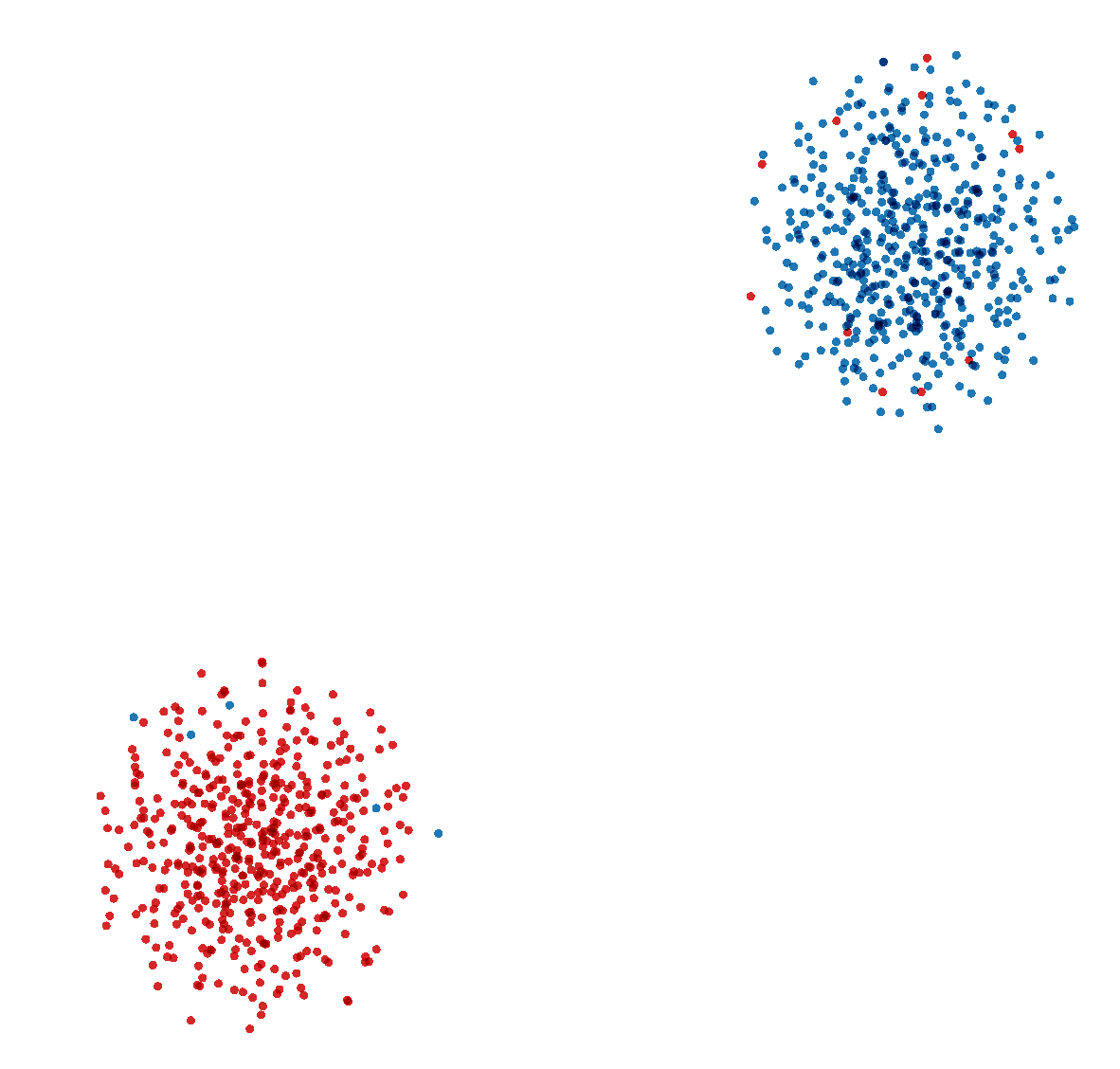
*skew = 0.02316198189194741 kurt = -0.7585778409715496*

wsj+ce+je:

*skew = 0.02062119066443605 kurt = -0.8155078098045876*

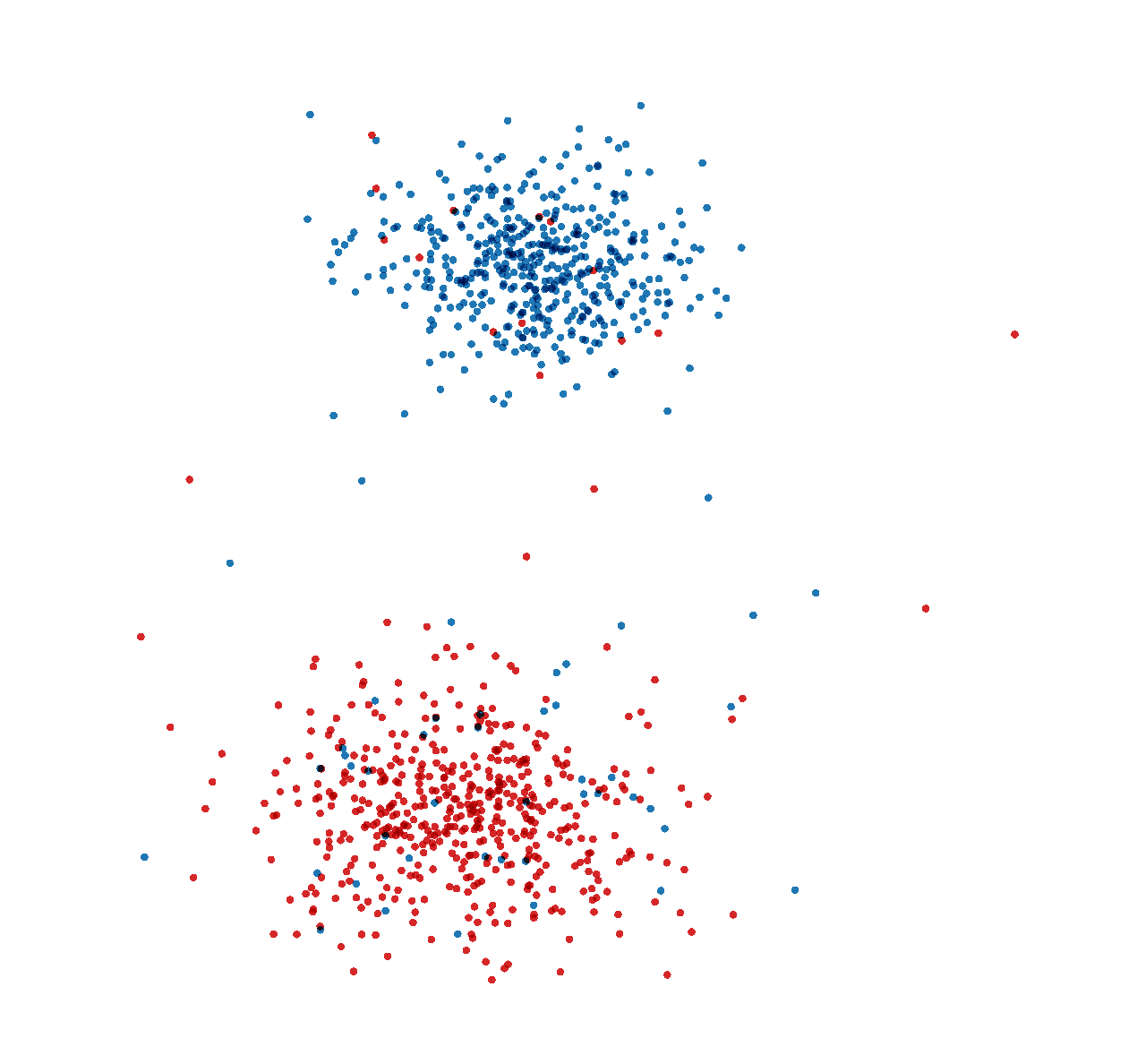
**训练集可视化：**

直接取两维

T-sne

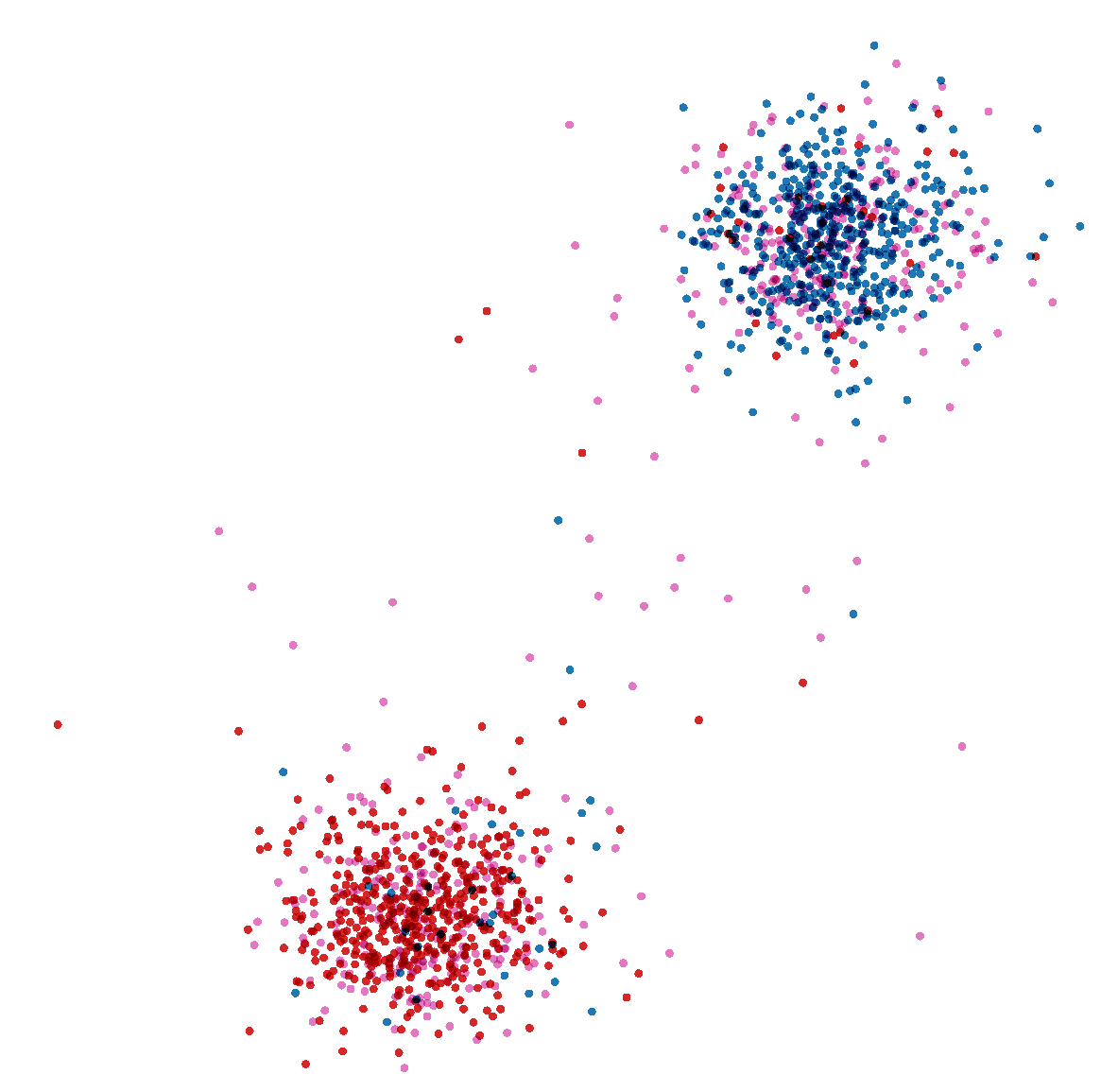
**测试集可视化：**

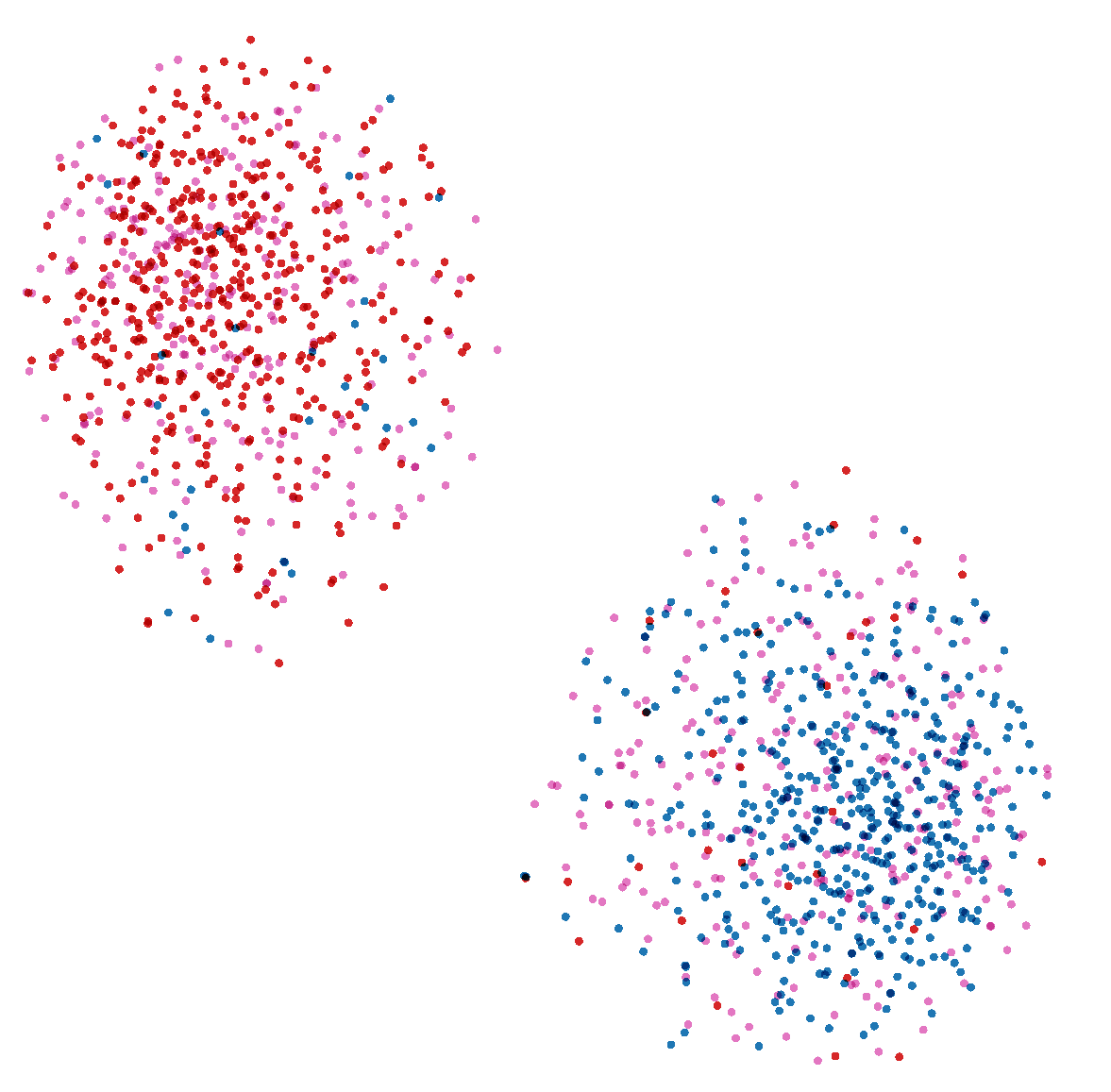
**用纯英语和中国英语（取自训练集外的同数据集）**

两维

T-sne

**使用纯英语、中国英语、日本英语；** 蓝色wsj，红色ce，粉色je

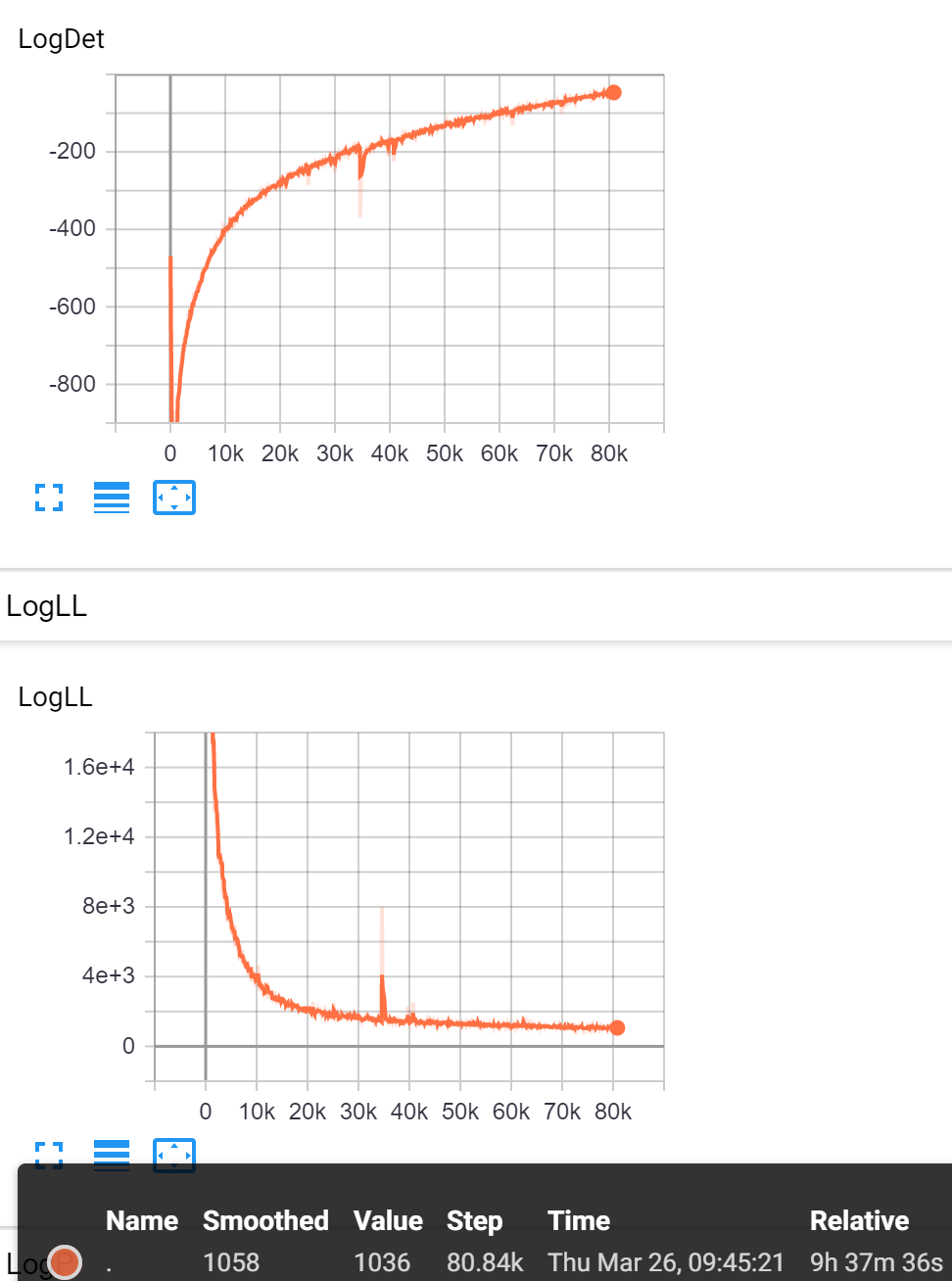
两维

t-sne

可视化结果表明，模型对于集内（wsj和ce）区分性较好

**实验2 2020.3.25**

Realnvp block=10 hidden=512 input=440 cond\_dim=400 var=1 & 1k

****

有一个明显的、奇怪的波动。

**训练集在隐空间高斯性：**

c(dim=400): *skew = 0.0006283868383616209 kurt = -1.5424493272780615*

r(dim=40): *skew = 0.008583634172100573 kurt = 0.7271008120156788*

**测试集在隐空间高斯性：**

**wsj+ce:**

c(dim=400): *skew = 0.0001360115630782843 kurt = -1.6097791542651472*

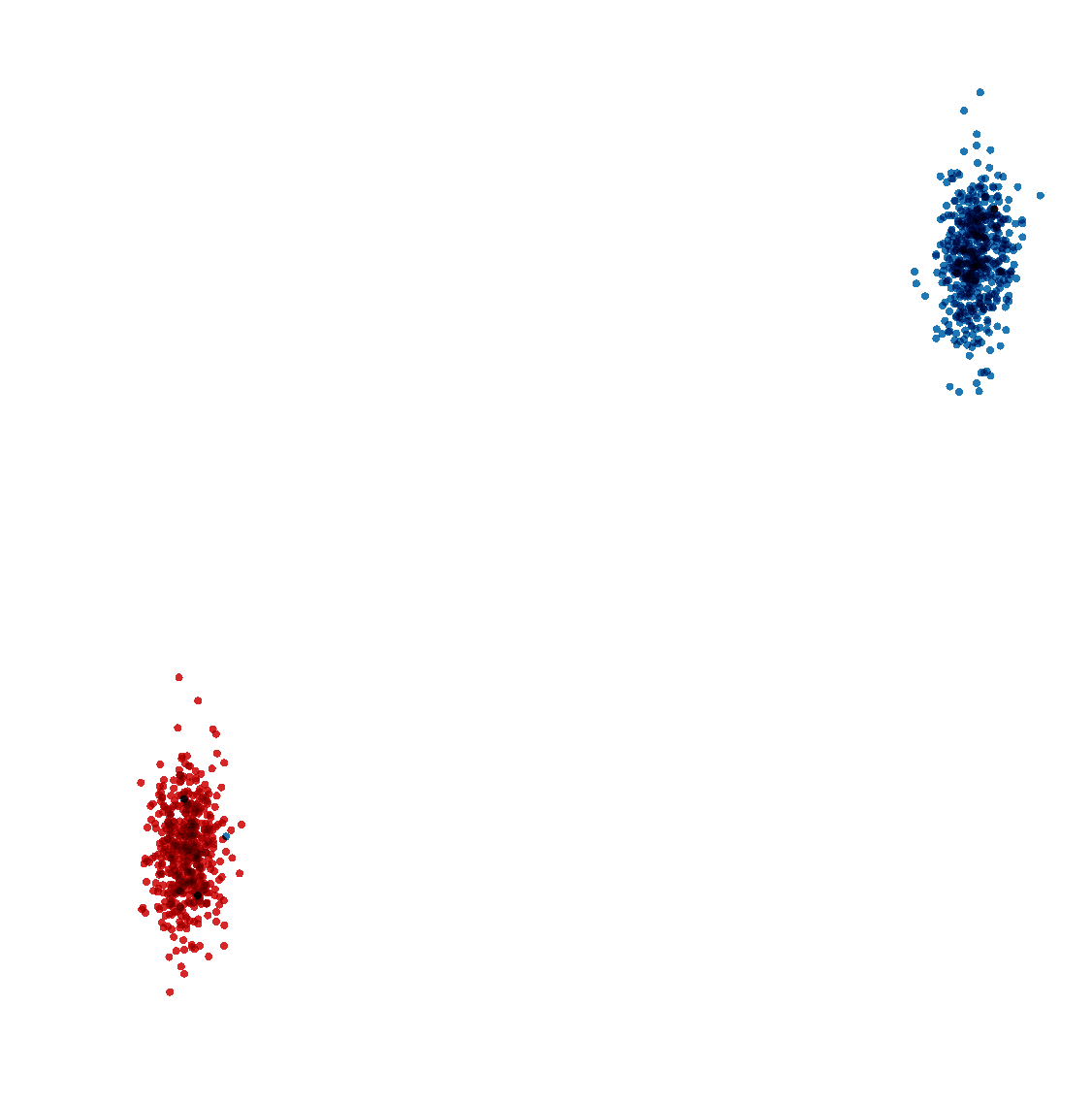
r(dim=40): *skew = 0.0037121913279406725 kurt = 0.7380078159736696*

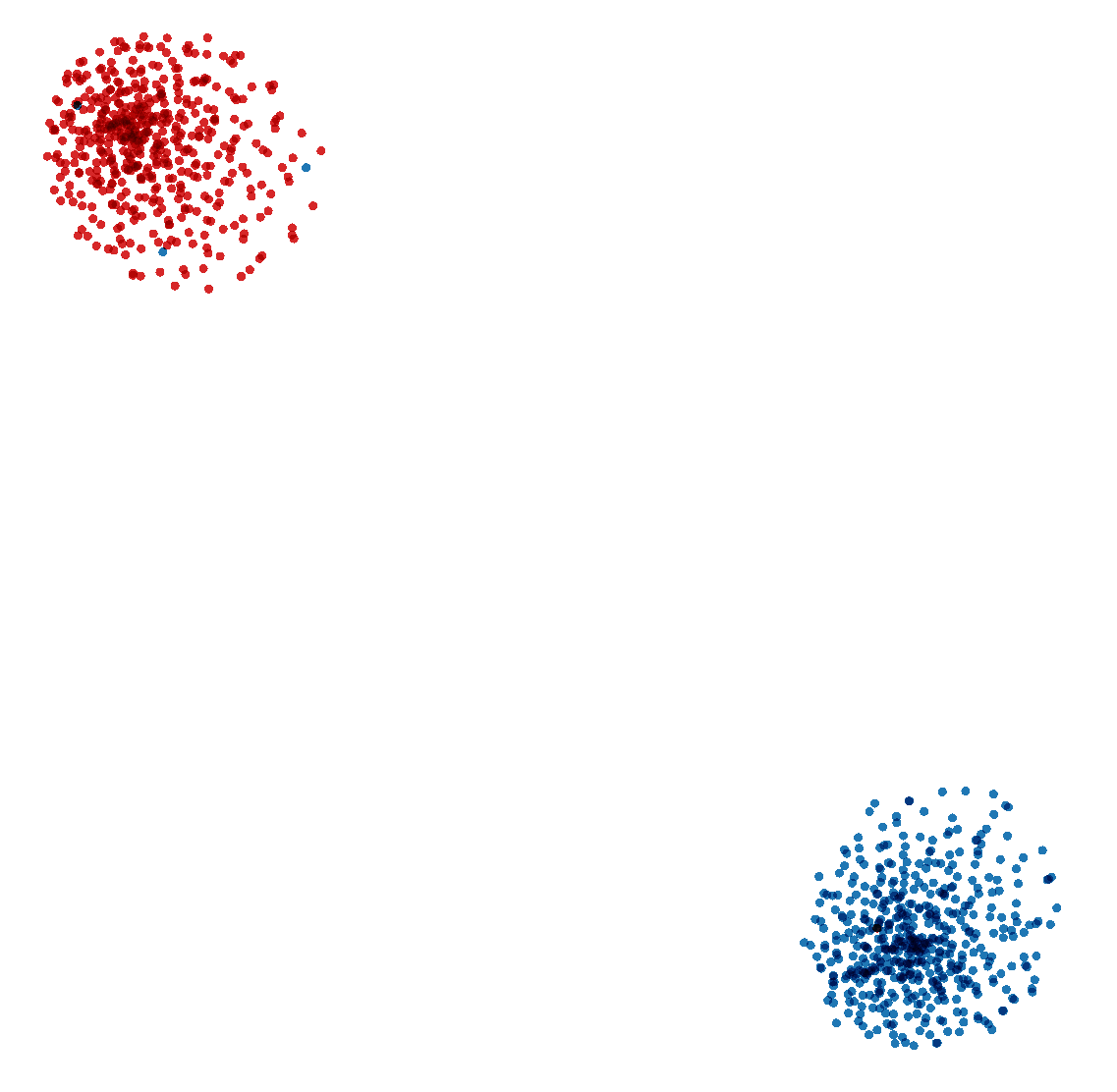
**wsj+ce+je:**

c(dim=400): *skew = 7.981912058312446e-05 kurt = -1.5953344626309138*

r(dim=40): *skew = 0.00020940345712006092 kurt = 0.7430761053304892*

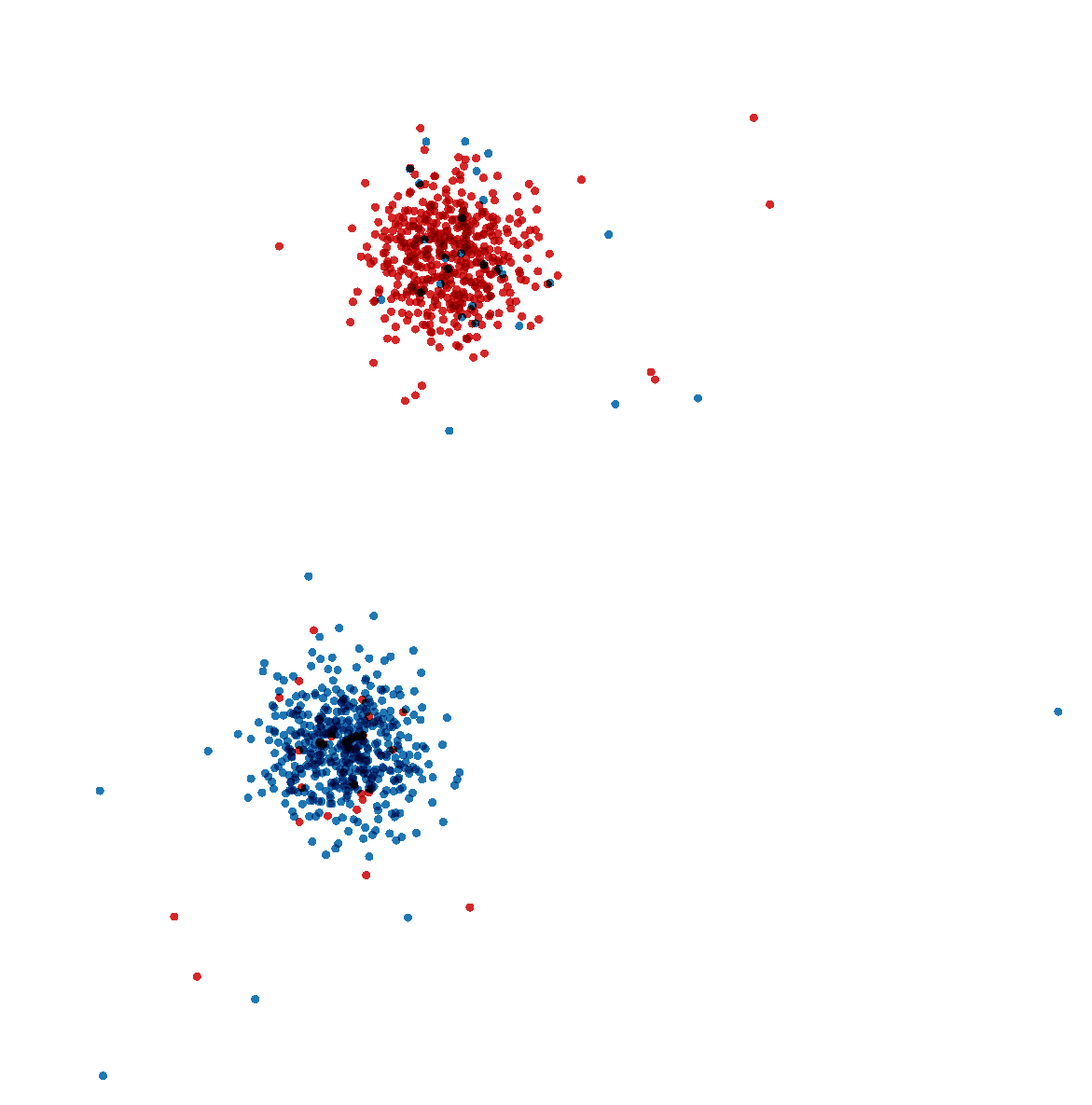
**训练集分布**

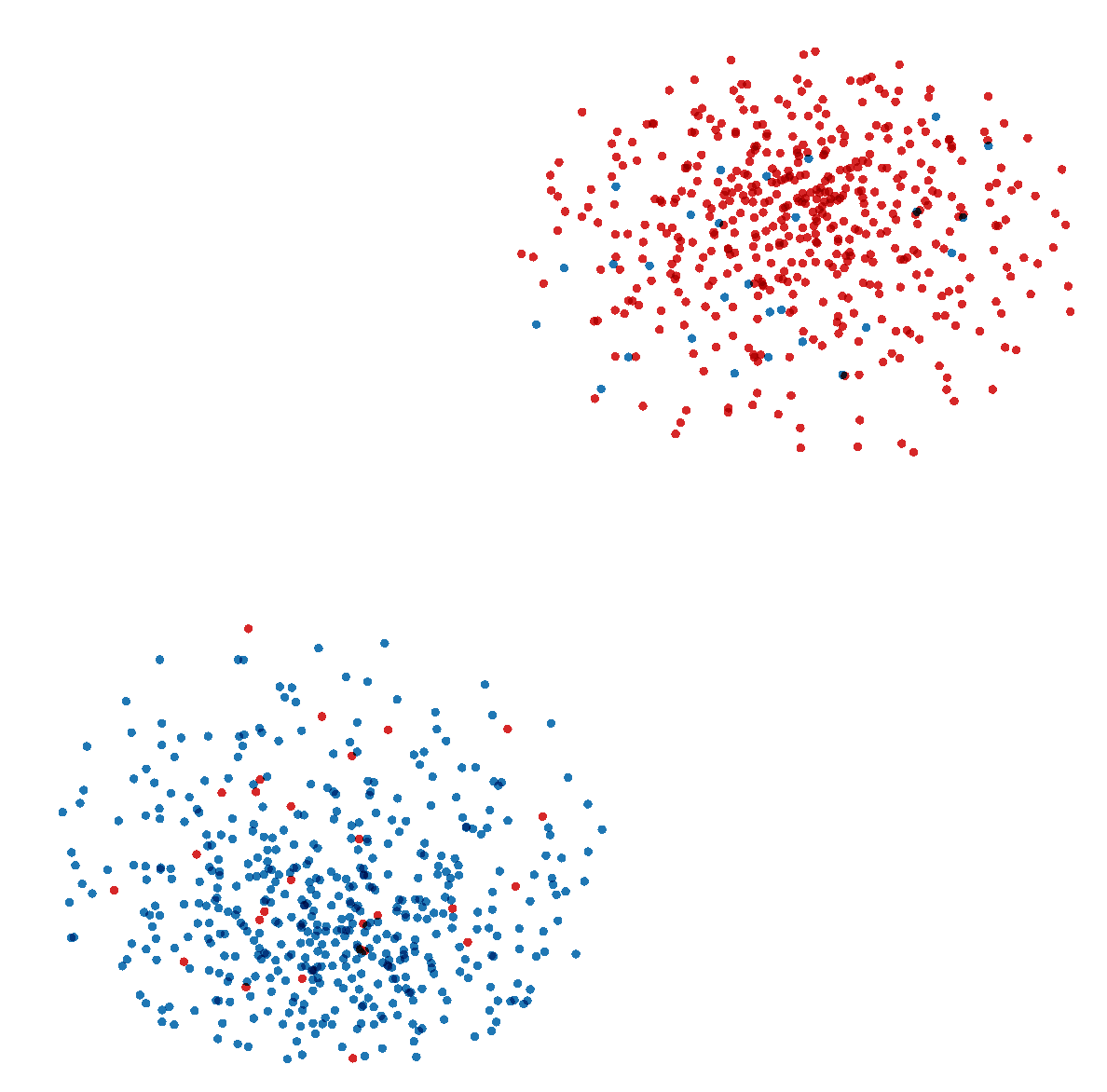
两维

T-sne

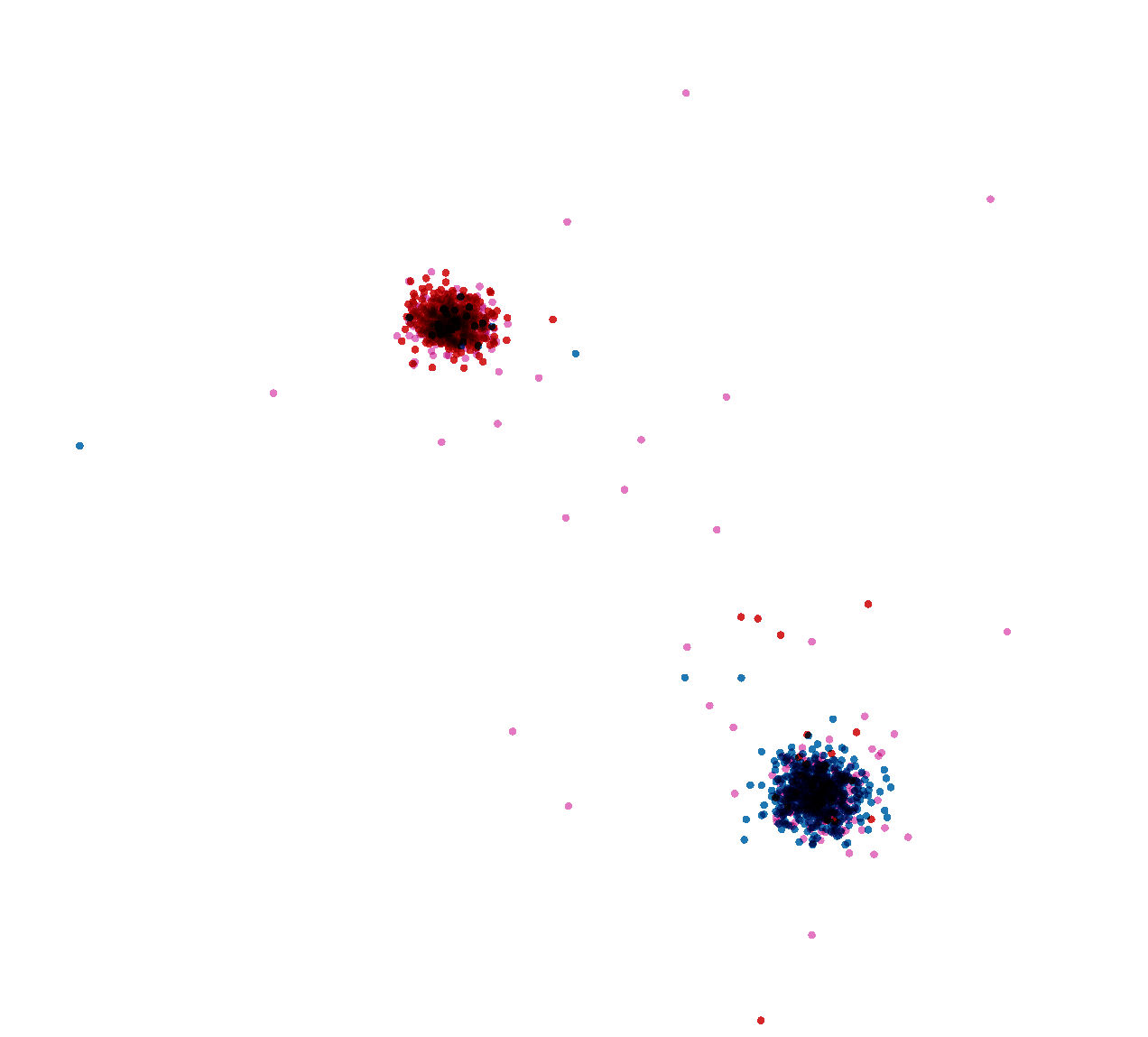
**测试集分布**

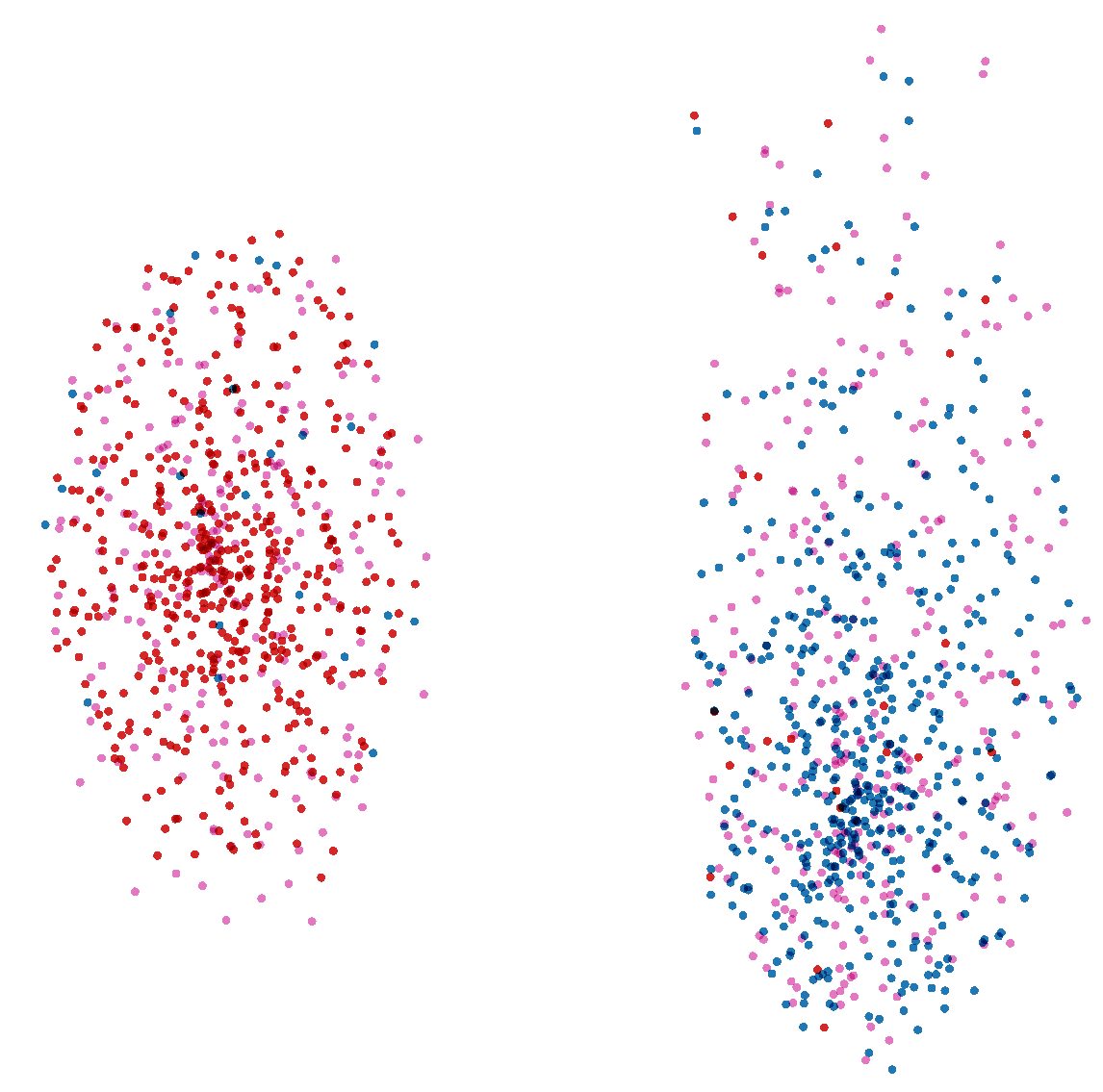
**wsj+ce**

两维****

t-sne 

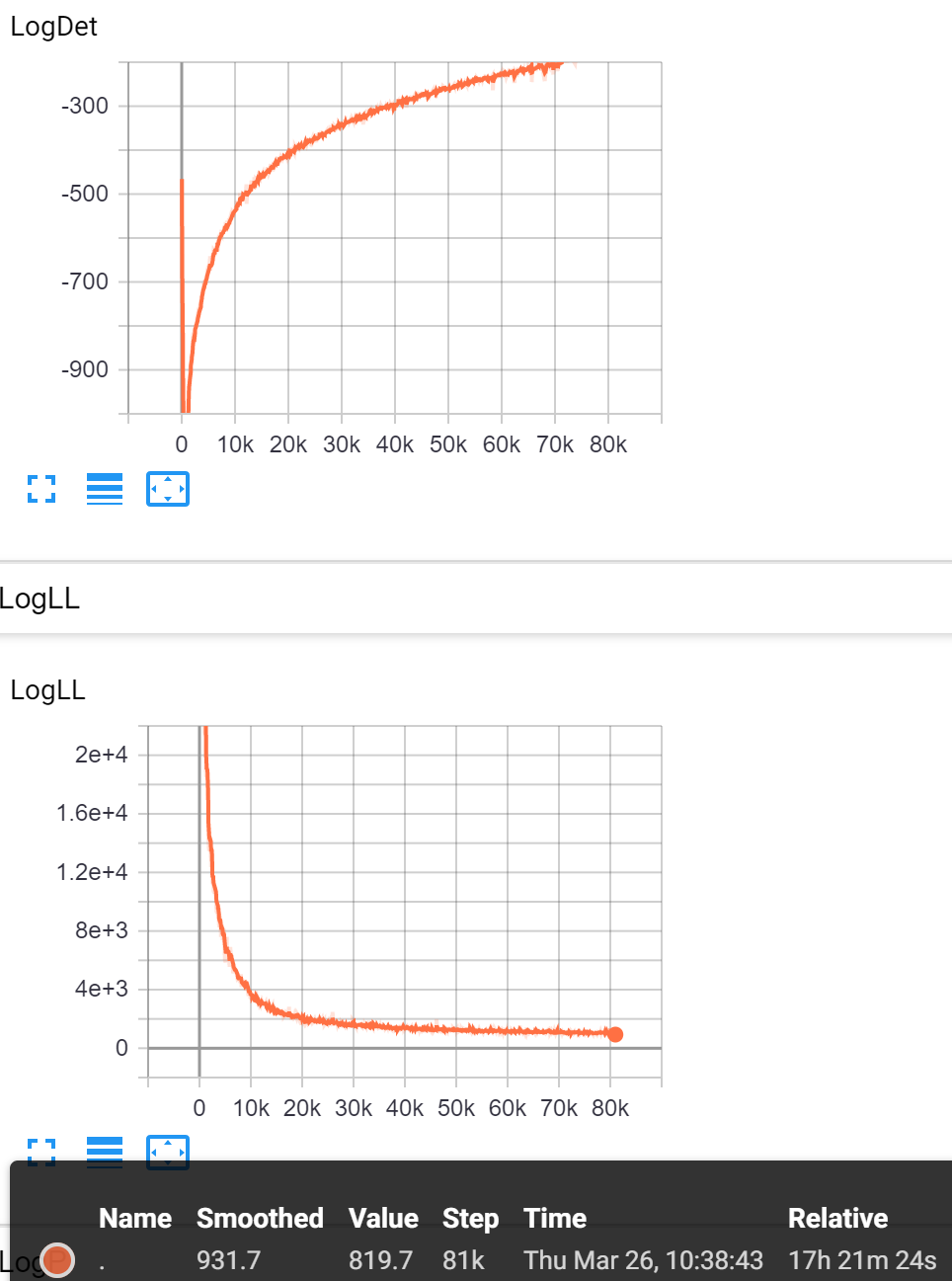
**wsj+ce+je (wsj&ce来自同集）**蓝色wsj，红色ce，粉色je

两维

t-sne 

**实验3 2020.3.25**

Realnvp block=10 hidden=512 input=440 cond\_dim=440 var=1 & 1k



同样的数据，这次没有出现奇怪的波动。

**训练集在隐空间高斯性：**

c(dim=440): *skew = -0.014642360260371457 kurt = -1.4761772624802512*

**测试集在隐空间高斯性：**

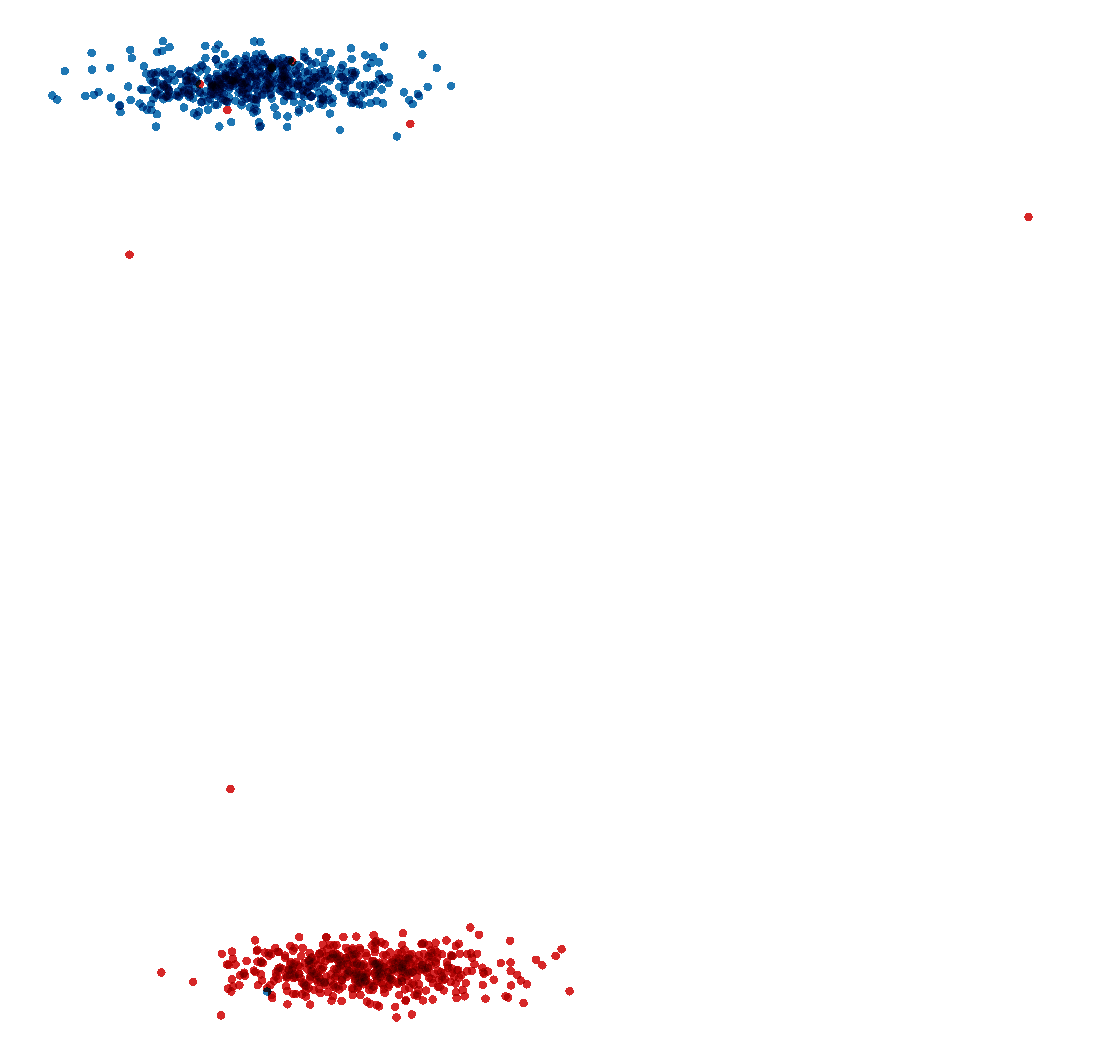
**wsj+ce两分类：**

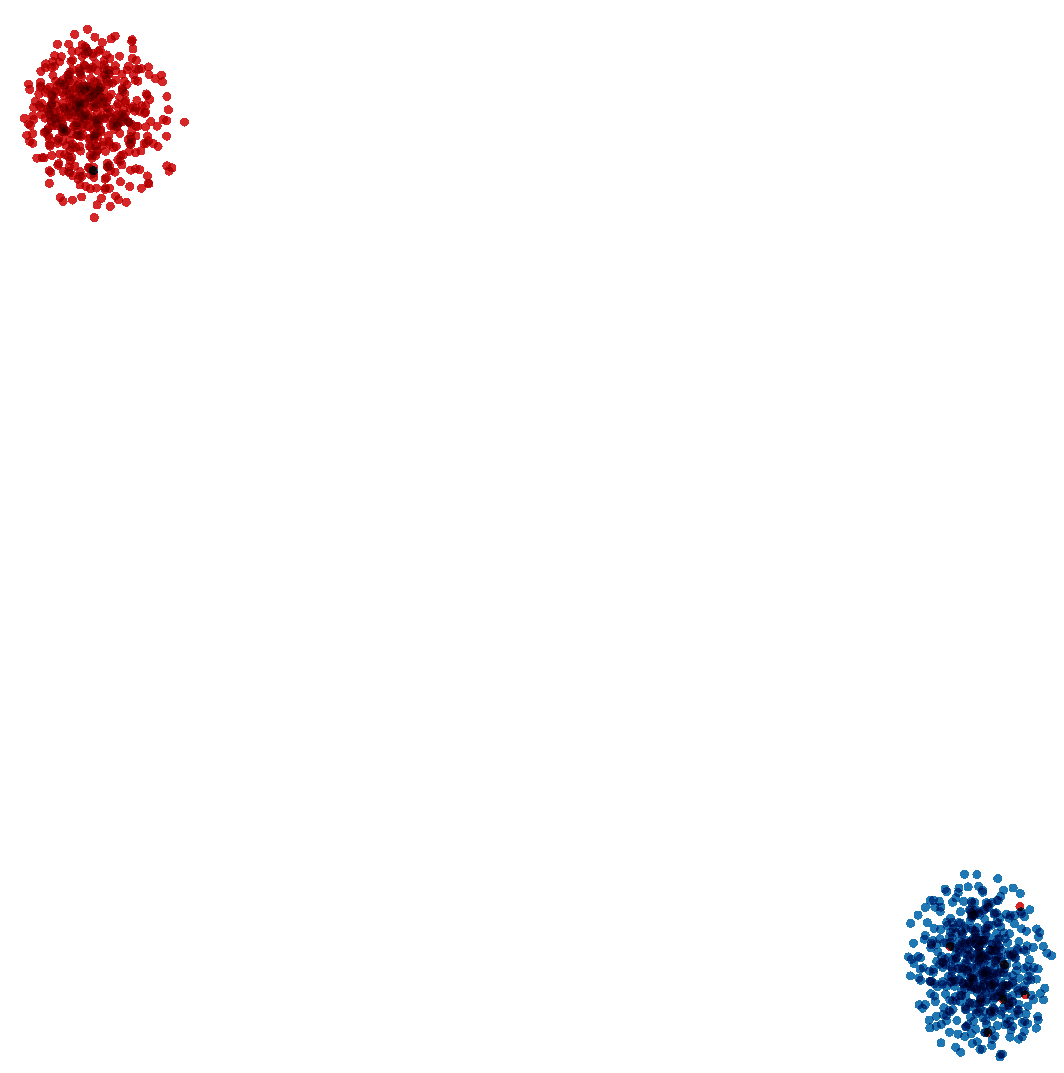
c(dim=440): *skew = -0.005829388468092392 kurt = -1.5395667708074203*

**wsj+ce+je三分类:**

c(dim=440): *skew = -0.005821182986123445 kurt = -1.5287577271416113*

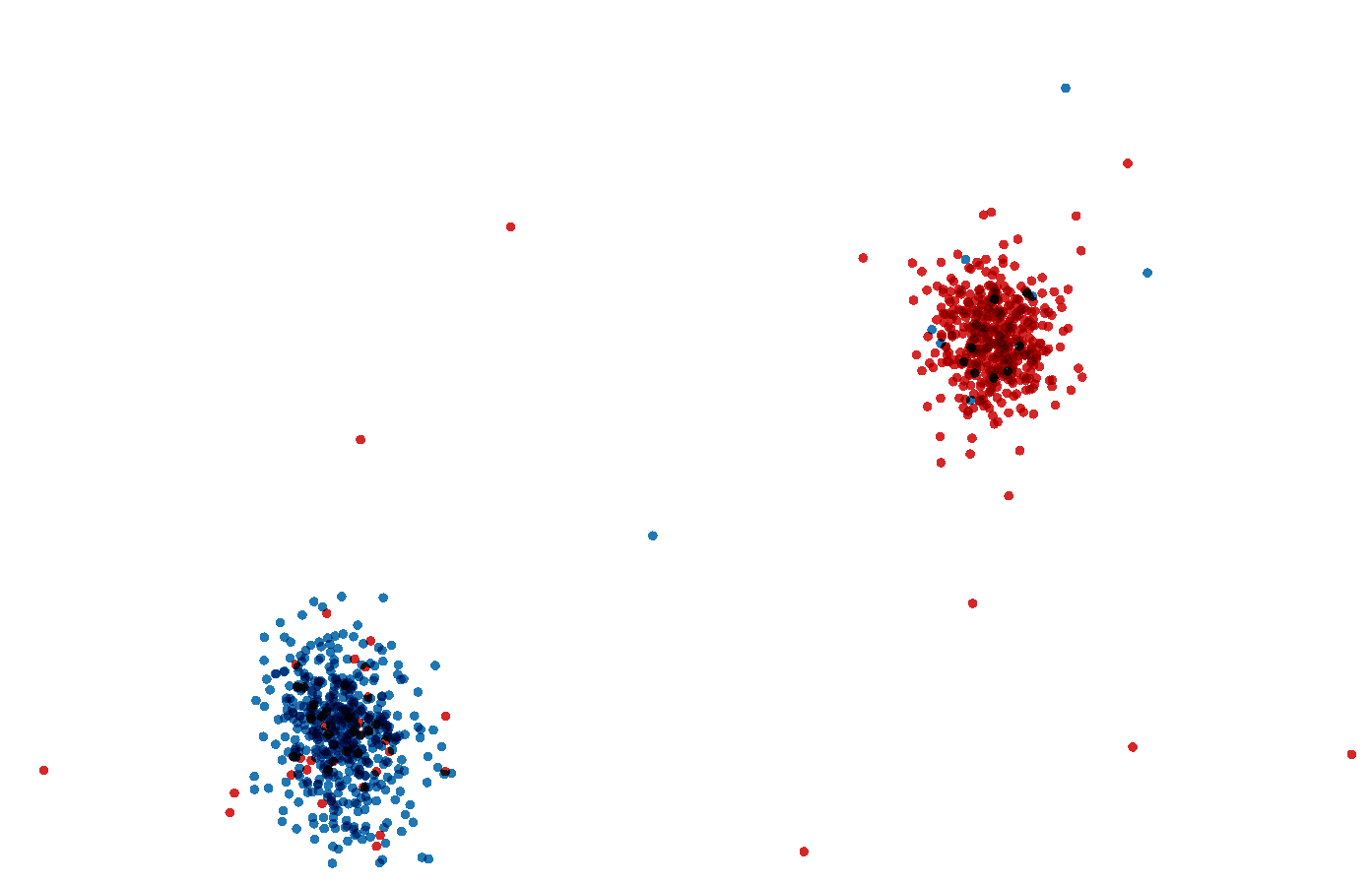
**训练集分布：**

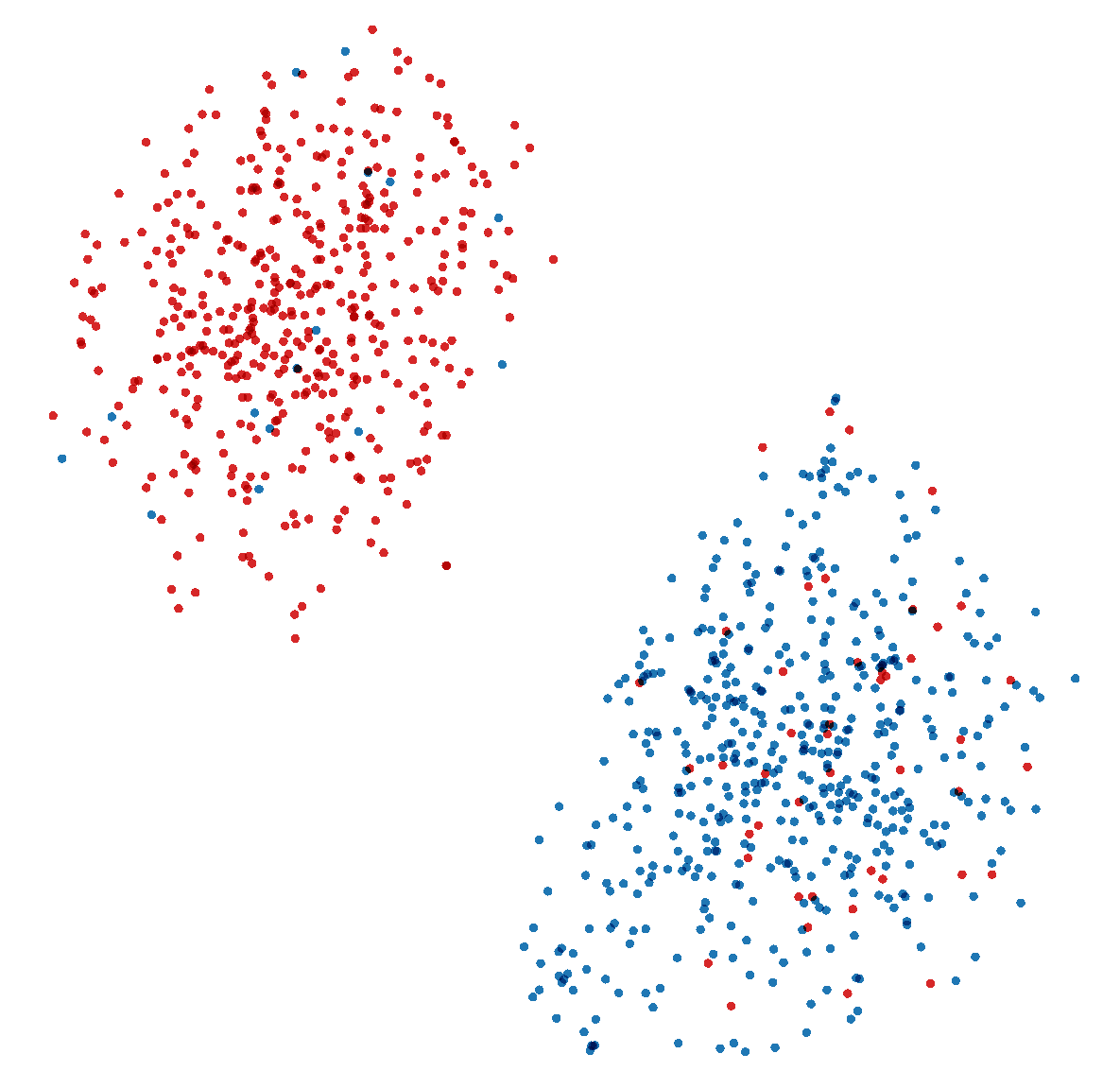
两维

t-sne 

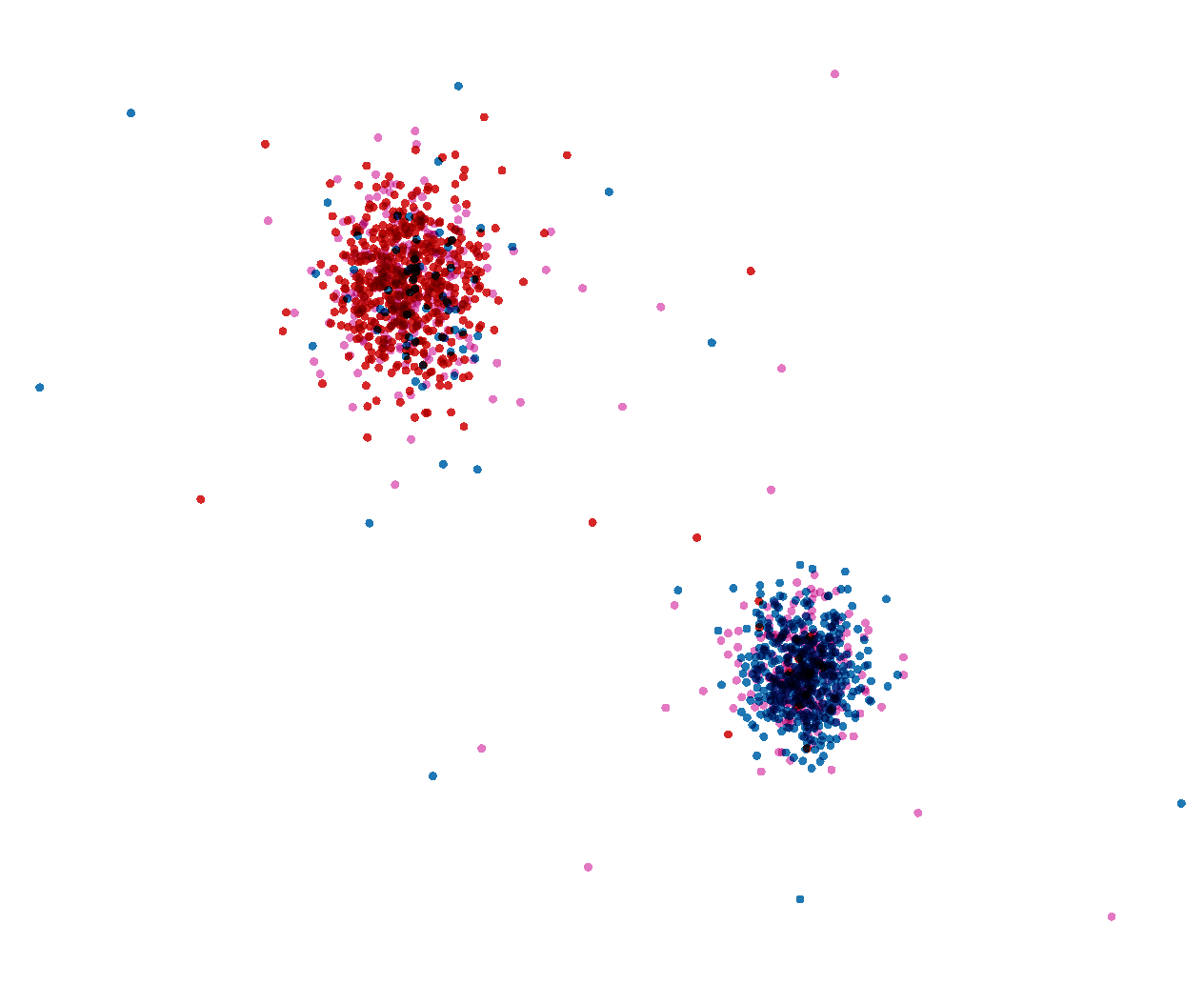
**测试集分布：**

**Wsj+ce：**

两维

t-sne 

**wsj+ce+je；**蓝色wsj，红色ce，粉色je

两维

t-sne 

实验1、2、3说明，在可视化的层面上，对于wsj和ce分类性较好。

对于没见过的je，依然不会分布到极其外围的位置，说明可能学到了英文发音的信息。

**Normal flow model**

**用wsj-50h中的9/10训练**

--epochs 100 --batch-size 10000 --lr 0.0001 --num-blocks 10

real\_nvp / relu / num\_hidden = 256

以下test均用epoch=95的model

1. 训练结果：

**LogLL** (loss) **= -41.869190** LogP = -170.205643 LogDet = 212.074829

**图片包含 地图, 文字

描述已自动生成**

1. 训练集（约45h）在latent空间：

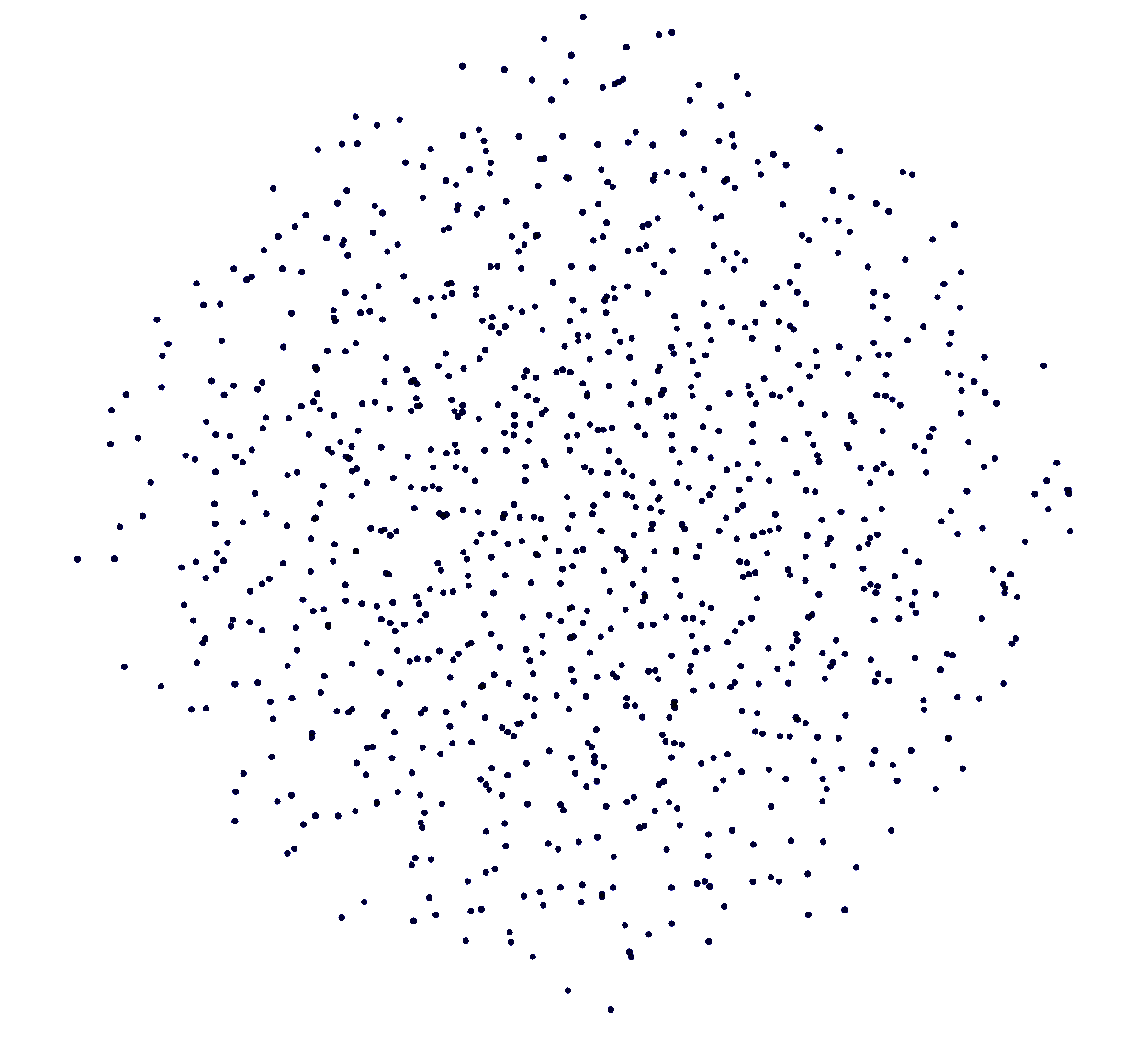
**LogLL = 1479.559040** LogP = -1443.457739 LogDet = -36.101301

456万帧，120维

1. wsj-50h训练集外的1/10（约5h）在latent空间：

**LogLL = 1466.184247**  LogP = -1429.757313 LogDet = -36.426934

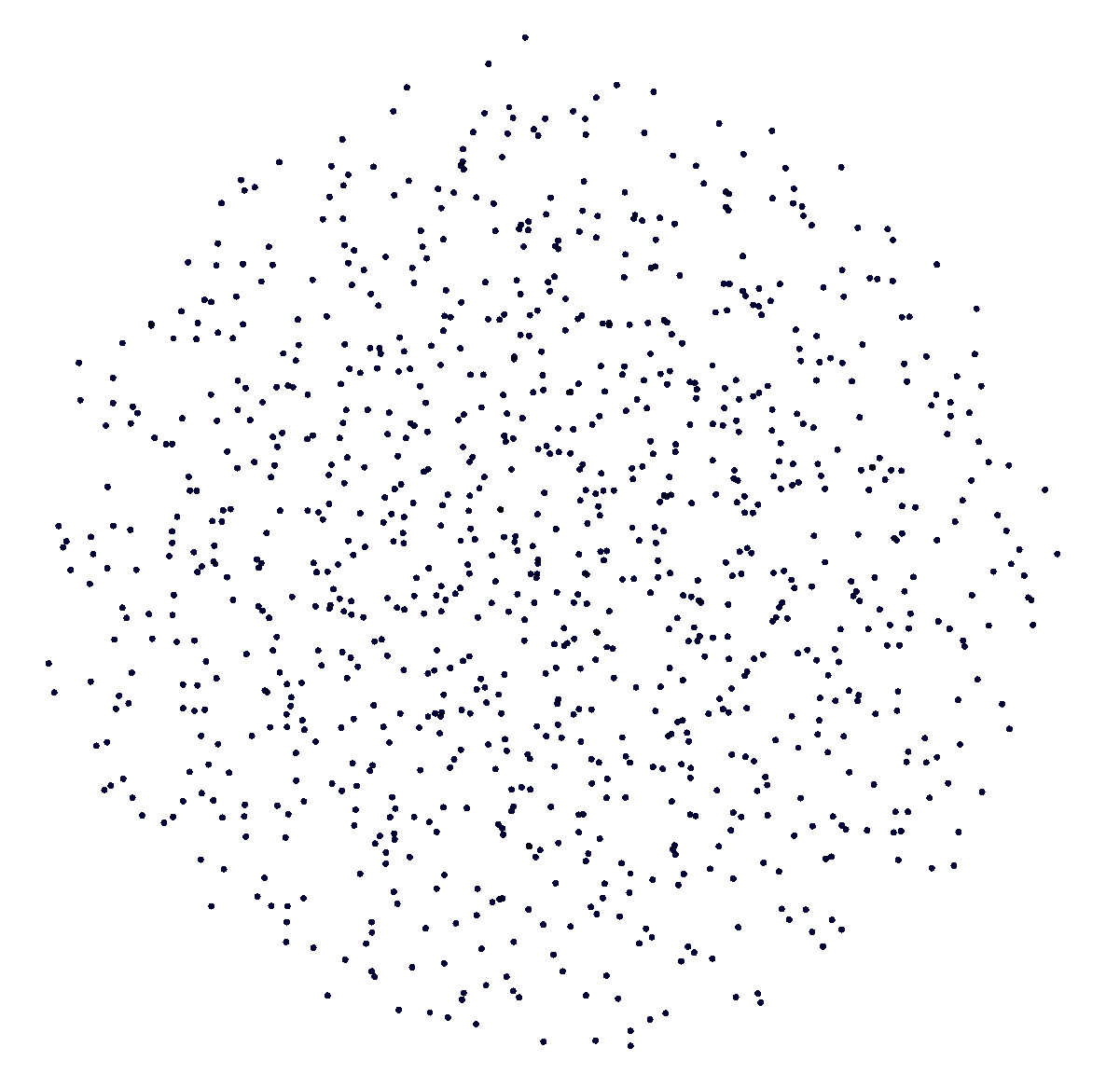
46万帧，120维



1. L2（Chinglish集，约30h）在latent空间：

**LogLL = 1655.813159**  LogP = -1601.595372 LogDet = -54.217786

422万帧，120维



1. JE (Japanese English, about 2h. Include score 1~5)

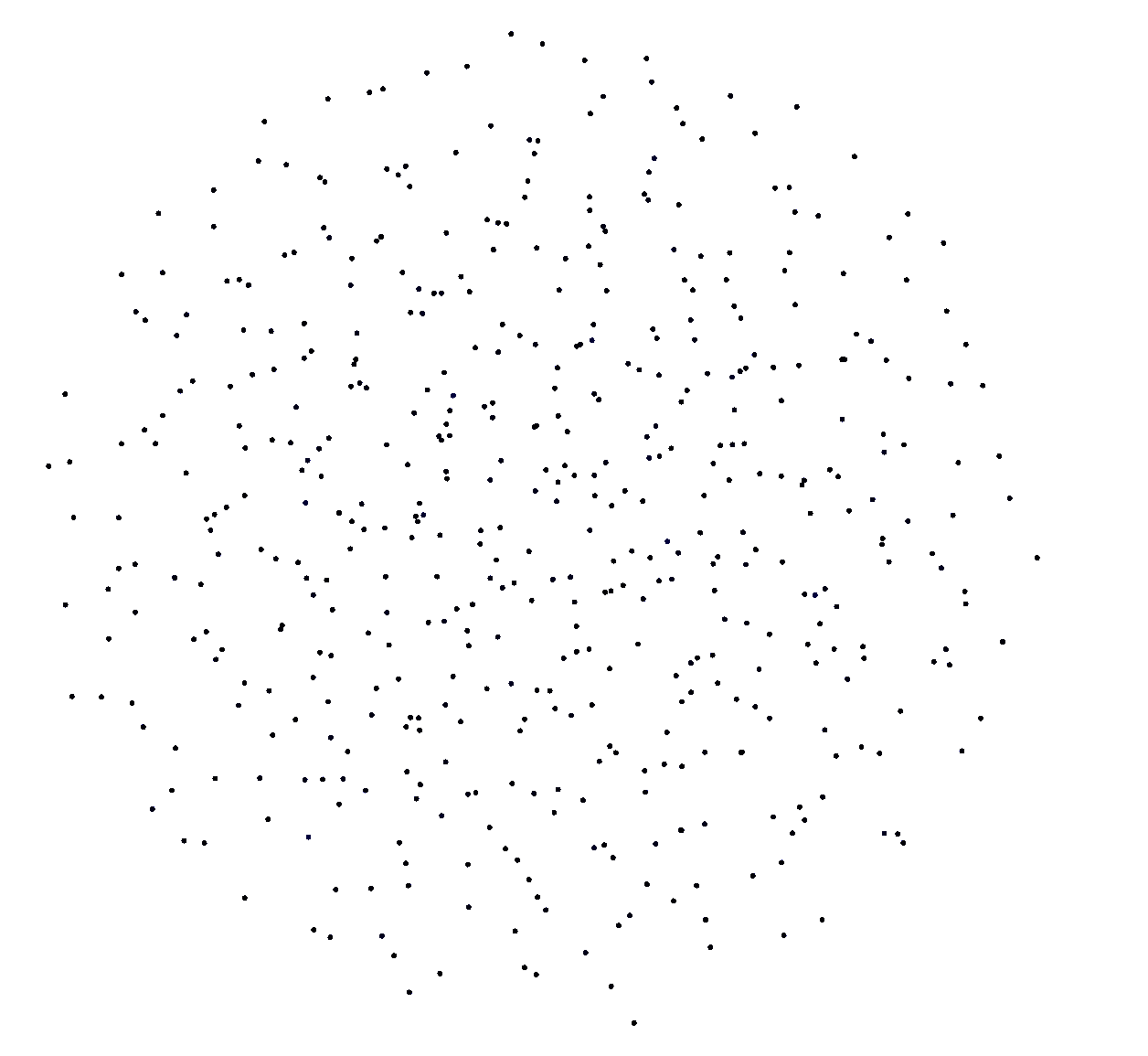
**LogLL = 1573.815700** LogP = -1529.885478 LogDet = -43.930221

20万帧，120维

1. JE(Score 1&2)

**LogLL = 1568.640994** LogP = -1525.555617 LogDet = -43.085376

75000帧，120维



1. wsj-test ce je(1&2)在latent空间中分布

