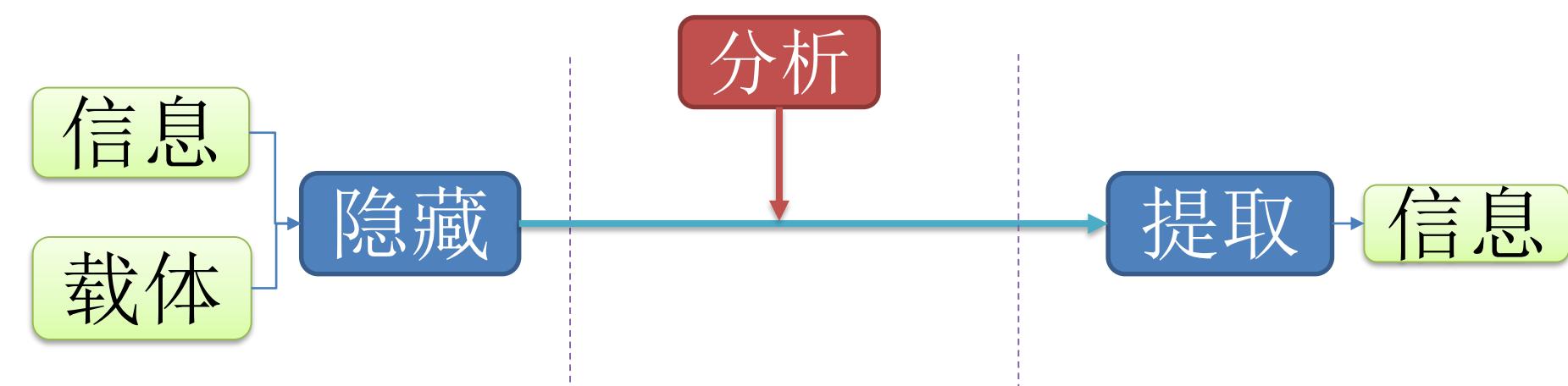


# 发送      传输      接收



# 信息隐藏技术

视频隐写术

图片隐写术

音频隐写术

文本隐写术

视频隐写术

## (攻) 视频隐写分析

空间域分析方法

编码域分析方法

空间域隐写方法

编码域隐写方法

## (防) 视频隐写

# 基于对抗学习的隐藏方法研究

## 图像隐藏方法

统计分析方法设计

隐藏痕迹分析CNN

高安全图片动态优化隐藏算法

## 视频隐藏方法

统计分析方法设计

载体特性分  
析CNN

隐藏痕迹分  
析CNN

高安全视频  
载体生成隐  
藏算法

高安全视频  
动态优化隐  
藏算法



## 信息隐藏方法

手工隐藏方法

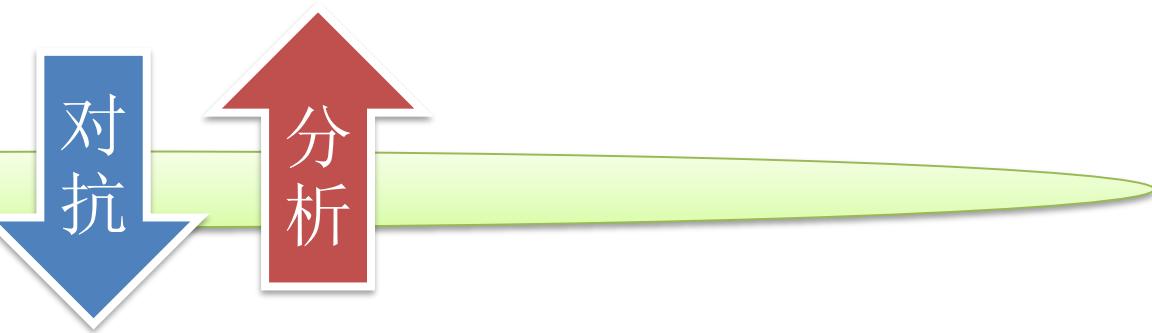
对抗学习隐藏方法

空间域

编码域

空间域

编码域



手工特征分析方法

自动特征分析方法

隐藏分析方法

# 图像隐藏方法

不抗分析隐藏方法

手工抗分析隐藏方法

对抗学习抗分析隐藏方法

LSB

•••

WOW

HUGO

•••

SSGAN

•••



SRM

LBP

•••

CNN

CNN+HPfilter

•••

手工特征分析方法

自动特征分析方法

## 图像分析方法

## 视频隐藏方法

### 不抗分析隐藏方法

预测模式调制  
隐藏

DCT系数调制  
隐藏

•••

### 手工抗分析隐藏方法

保持最优性的运  
动向量调制隐藏

防止误差传递的  
DCT调制隐藏

•••

分析

对抗

局部最优化特征

量化奇异值特征

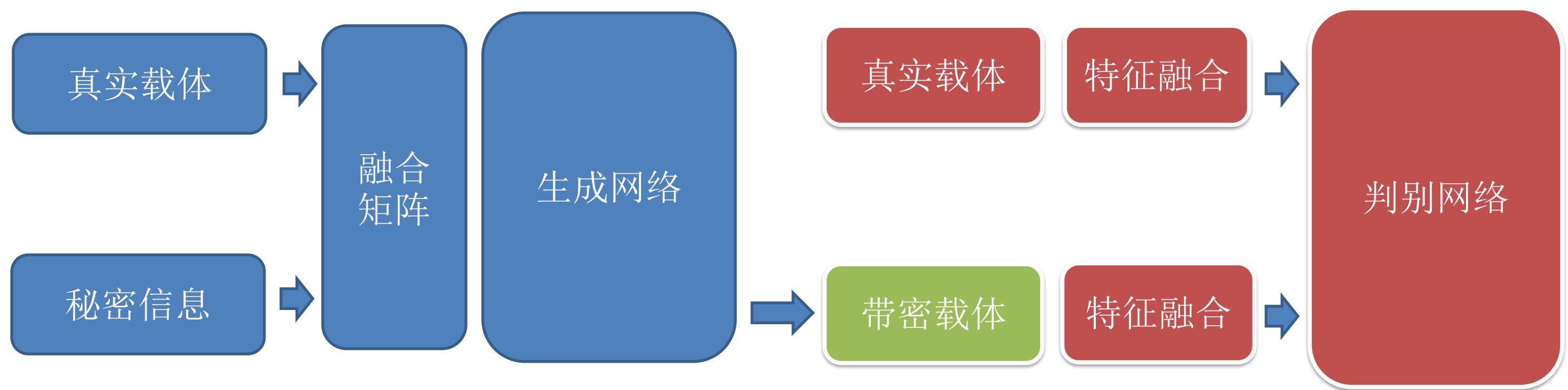
DCTR特征

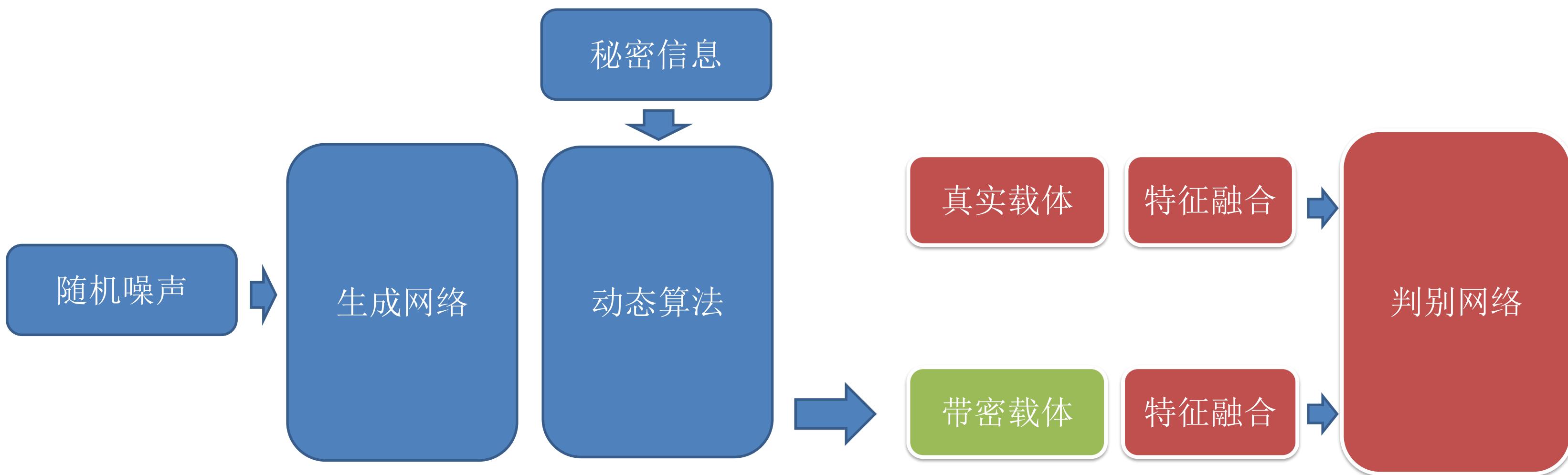
时空统计特征

•••

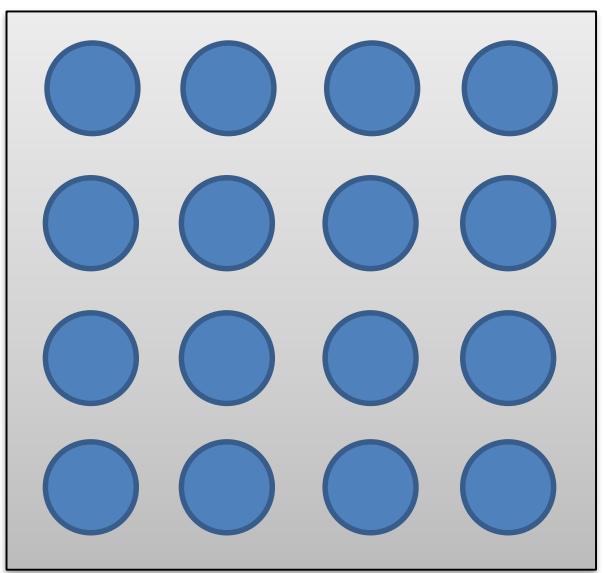
手工特征分析方法

视频分析方法

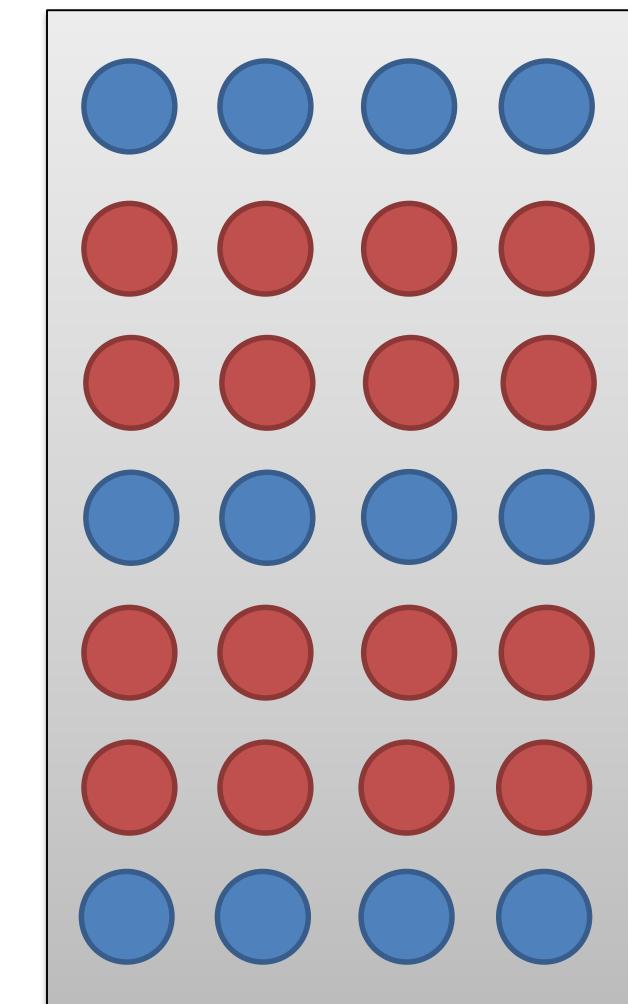
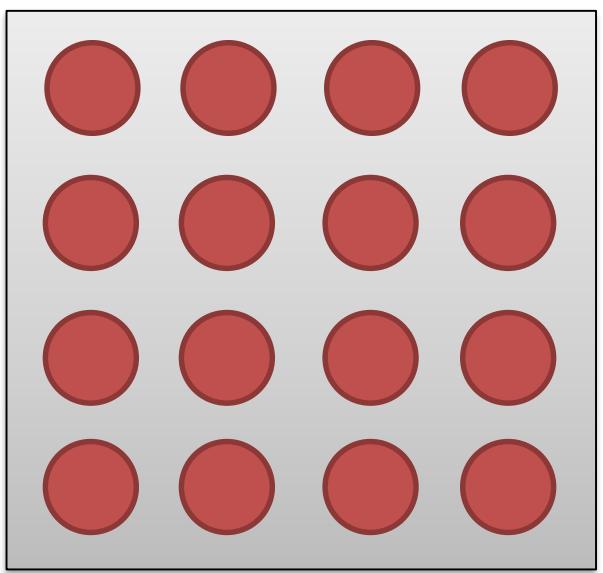




真实载体

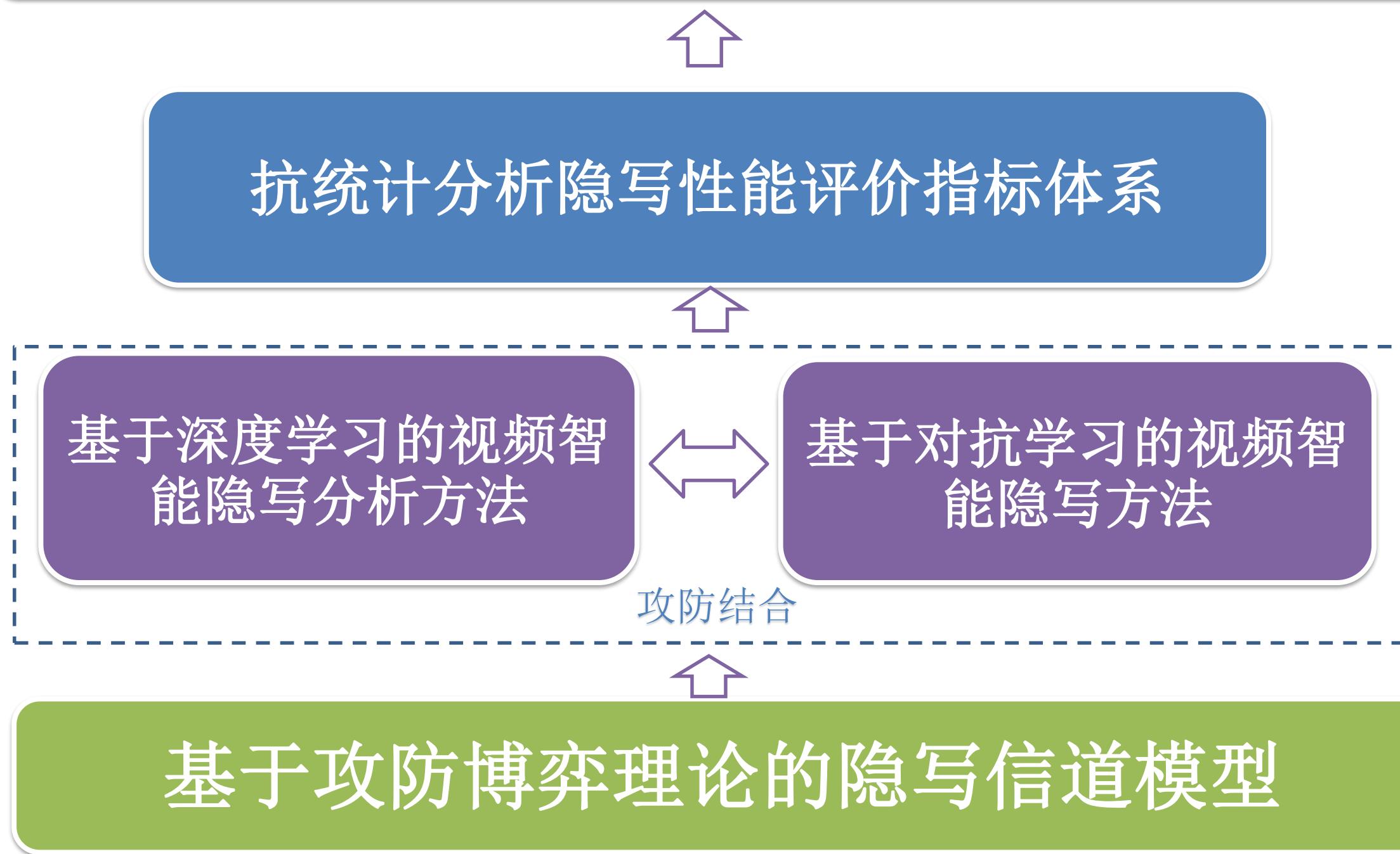


秘密信息

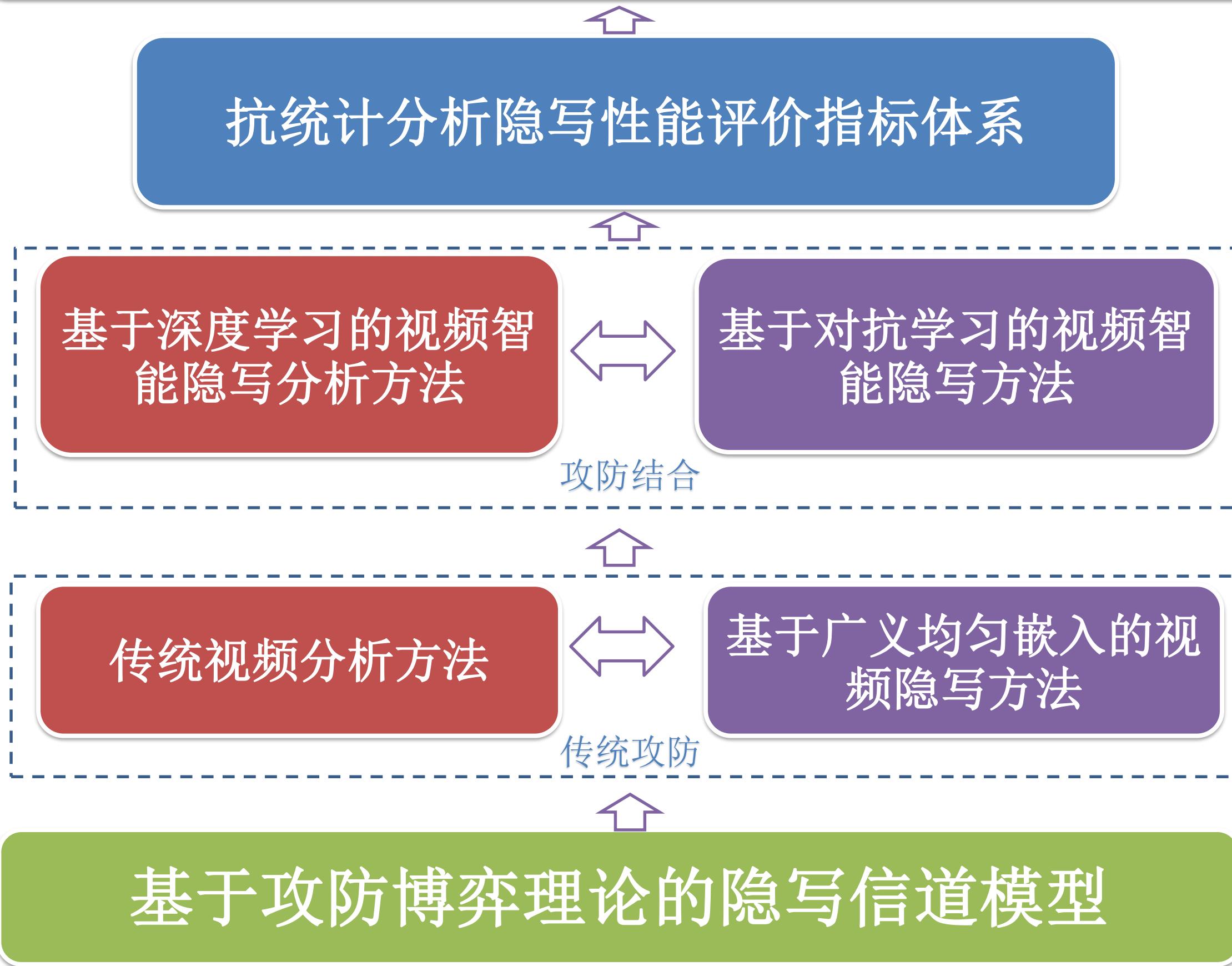


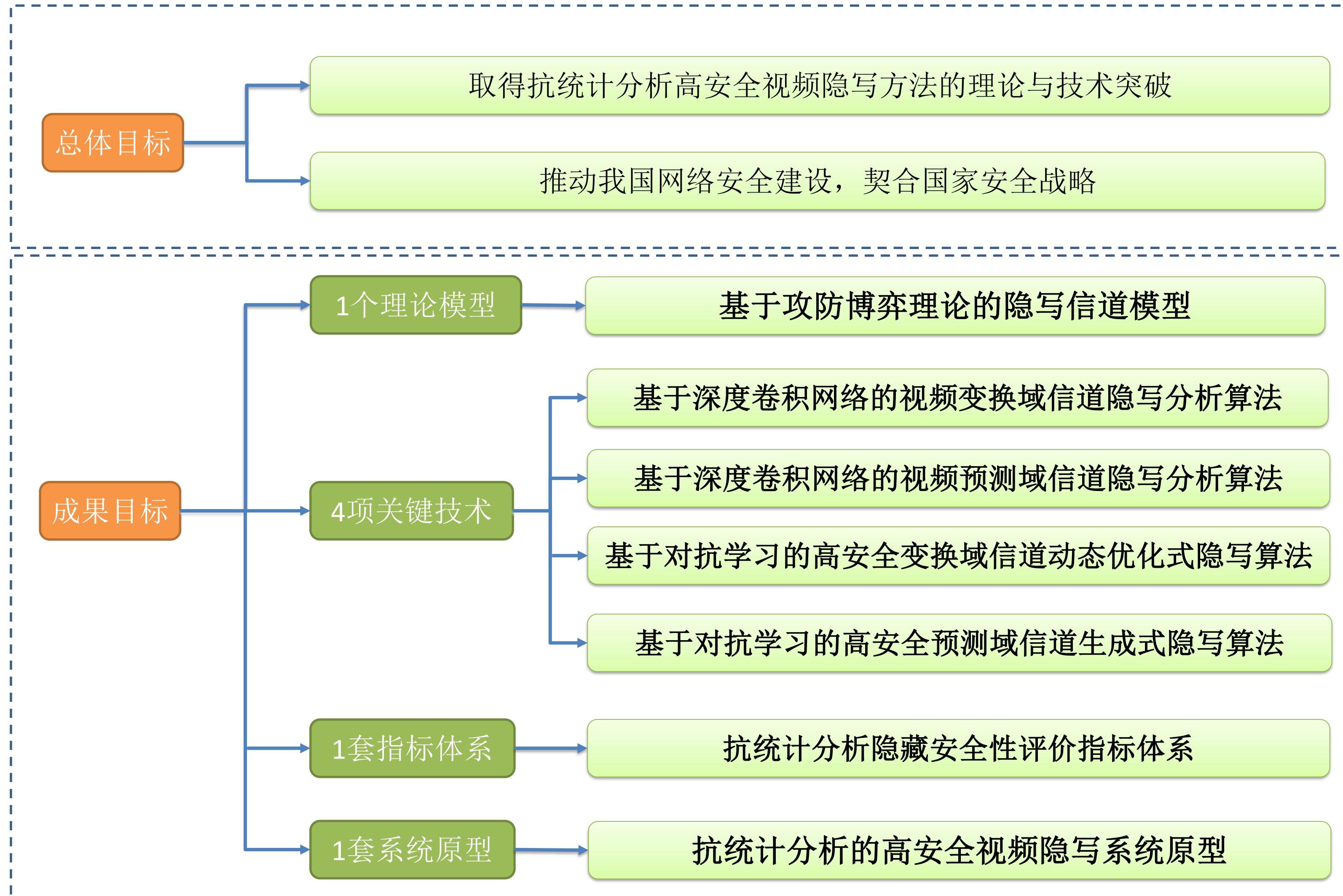
融合矩阵

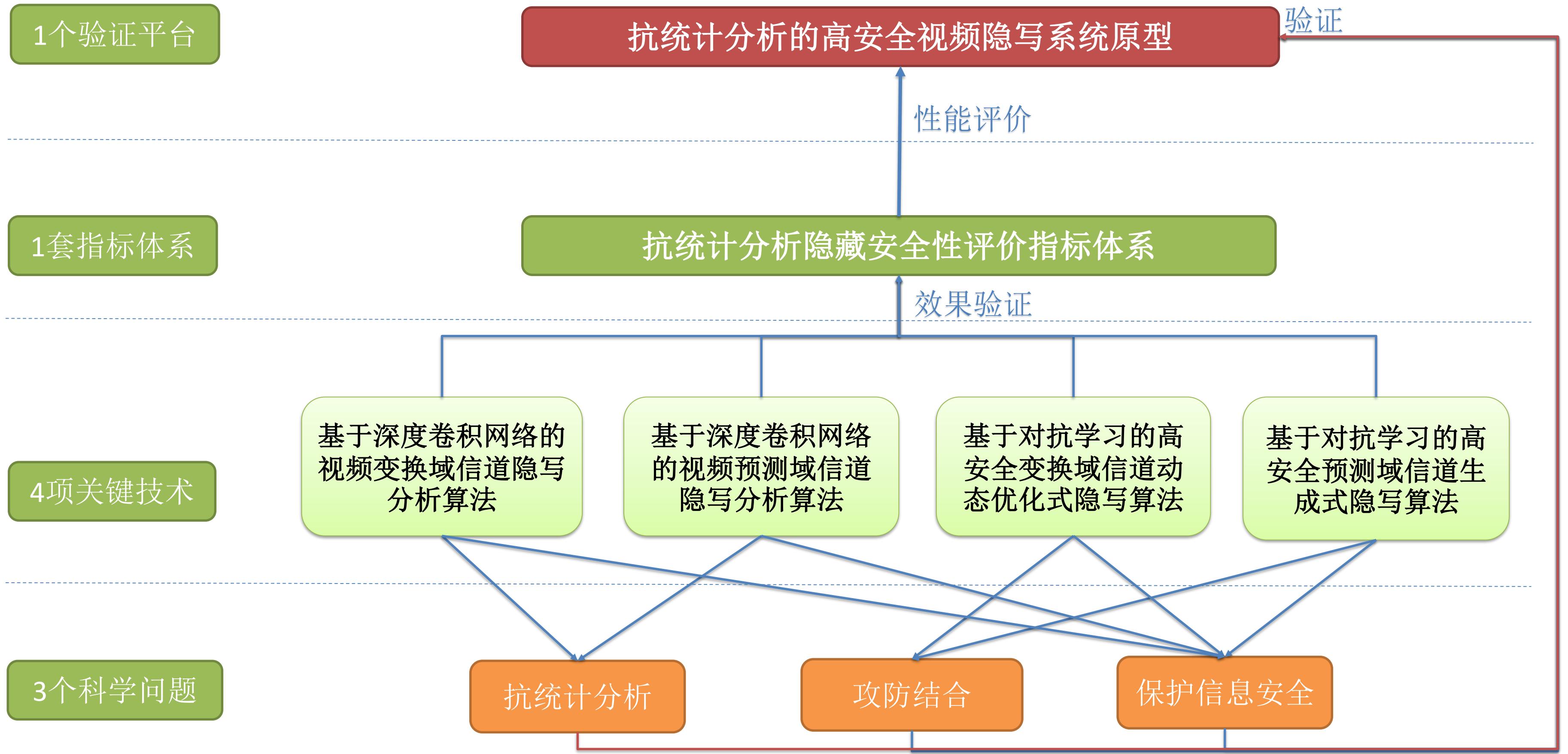
# 抗统计分析的高安全视频智能隐写系统原型



# 抗统计分析的高安全视频智能隐写系统原型







视频文件

预测域隐写特性

隐写信道分类

变换域隐写特性

预测域信道模型

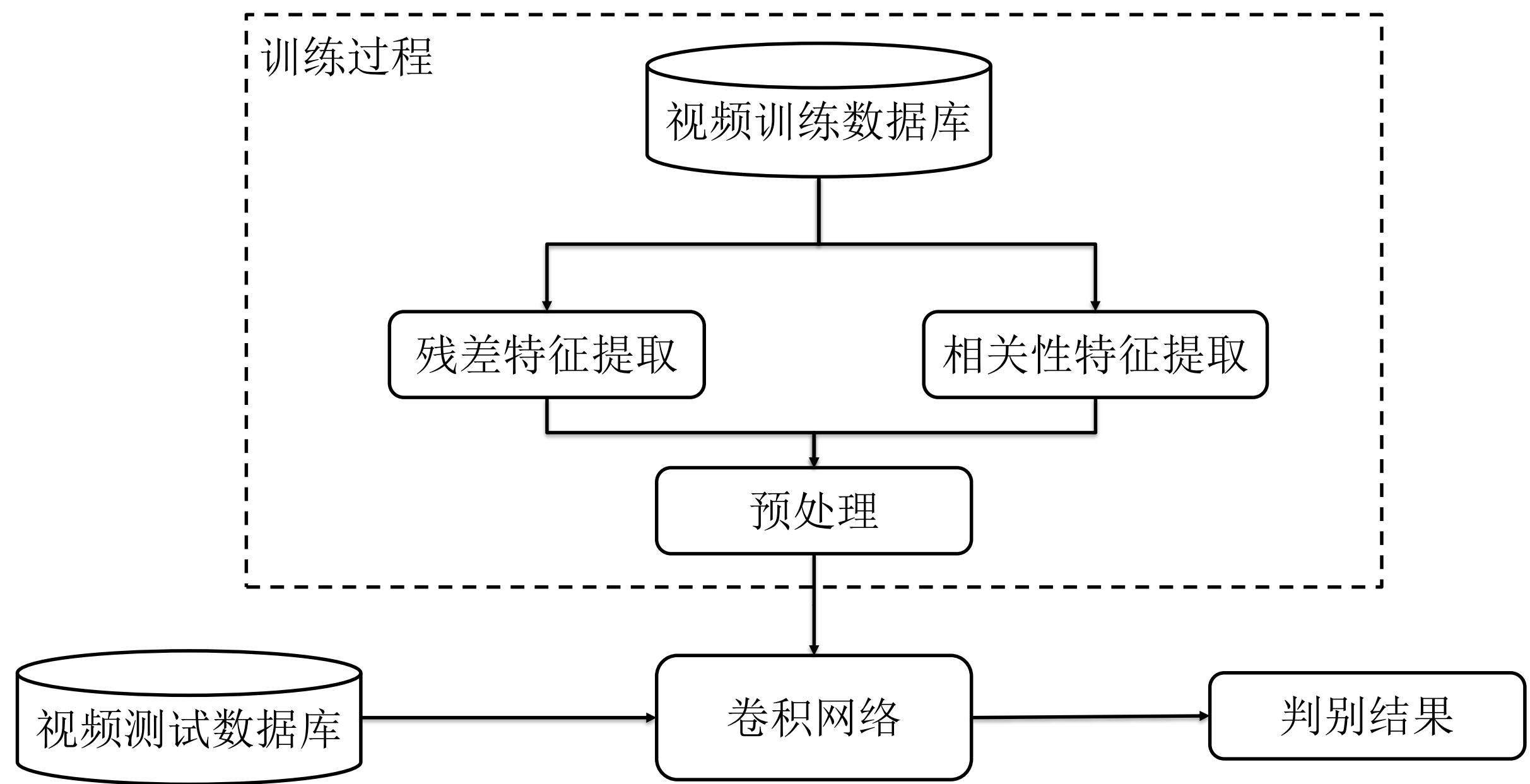
变换域信道模型

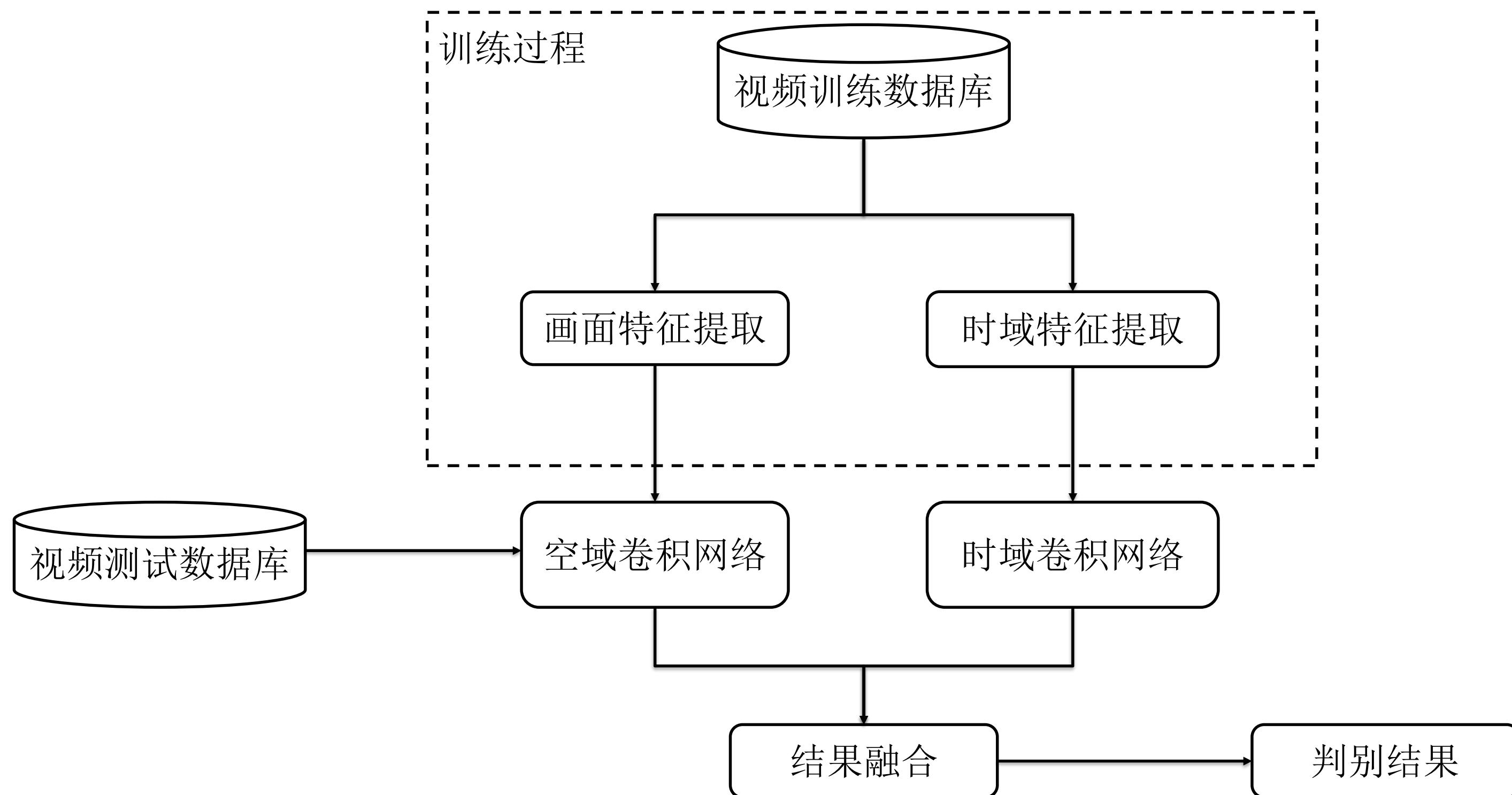
信道分布特征

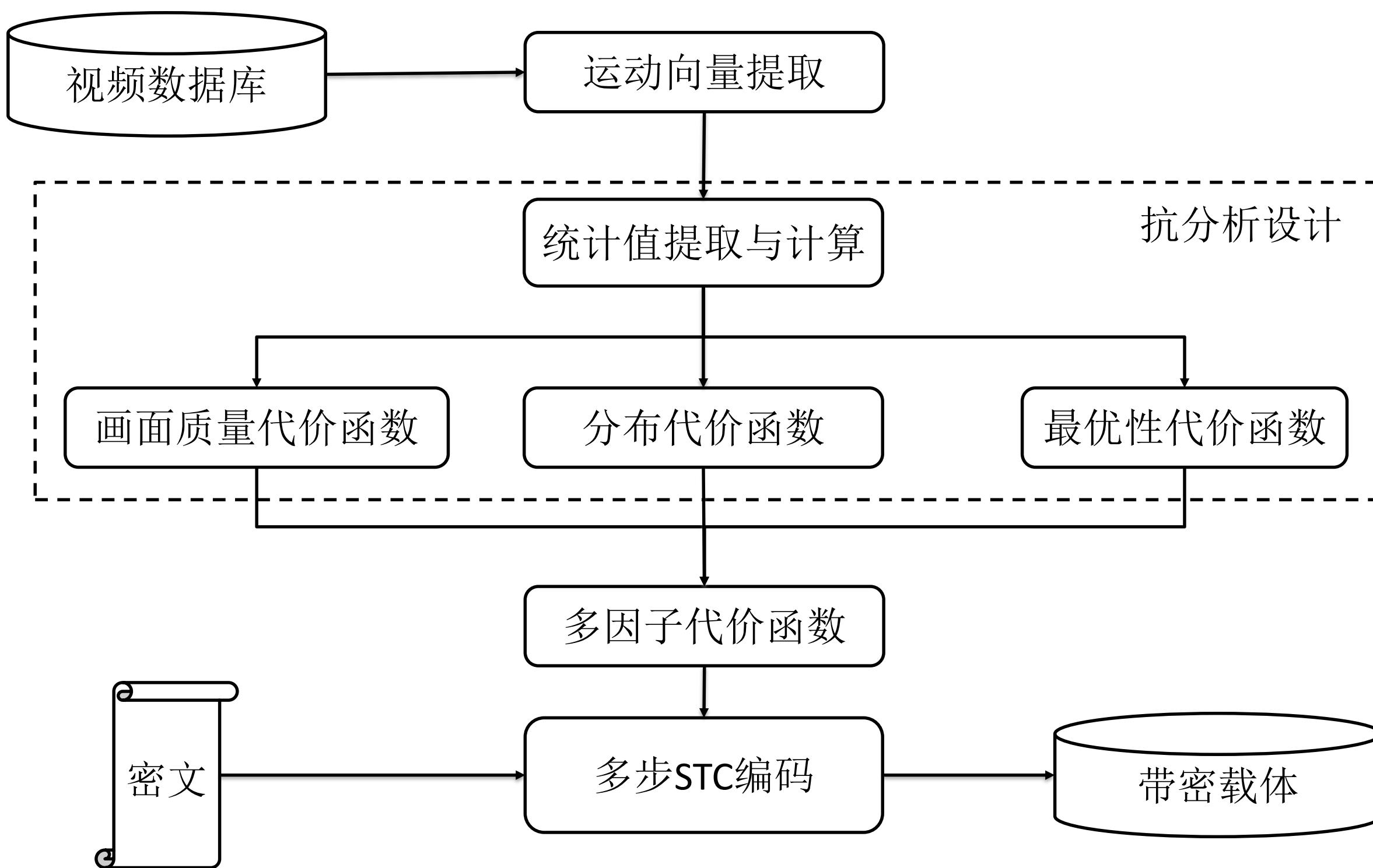
残差分布特征

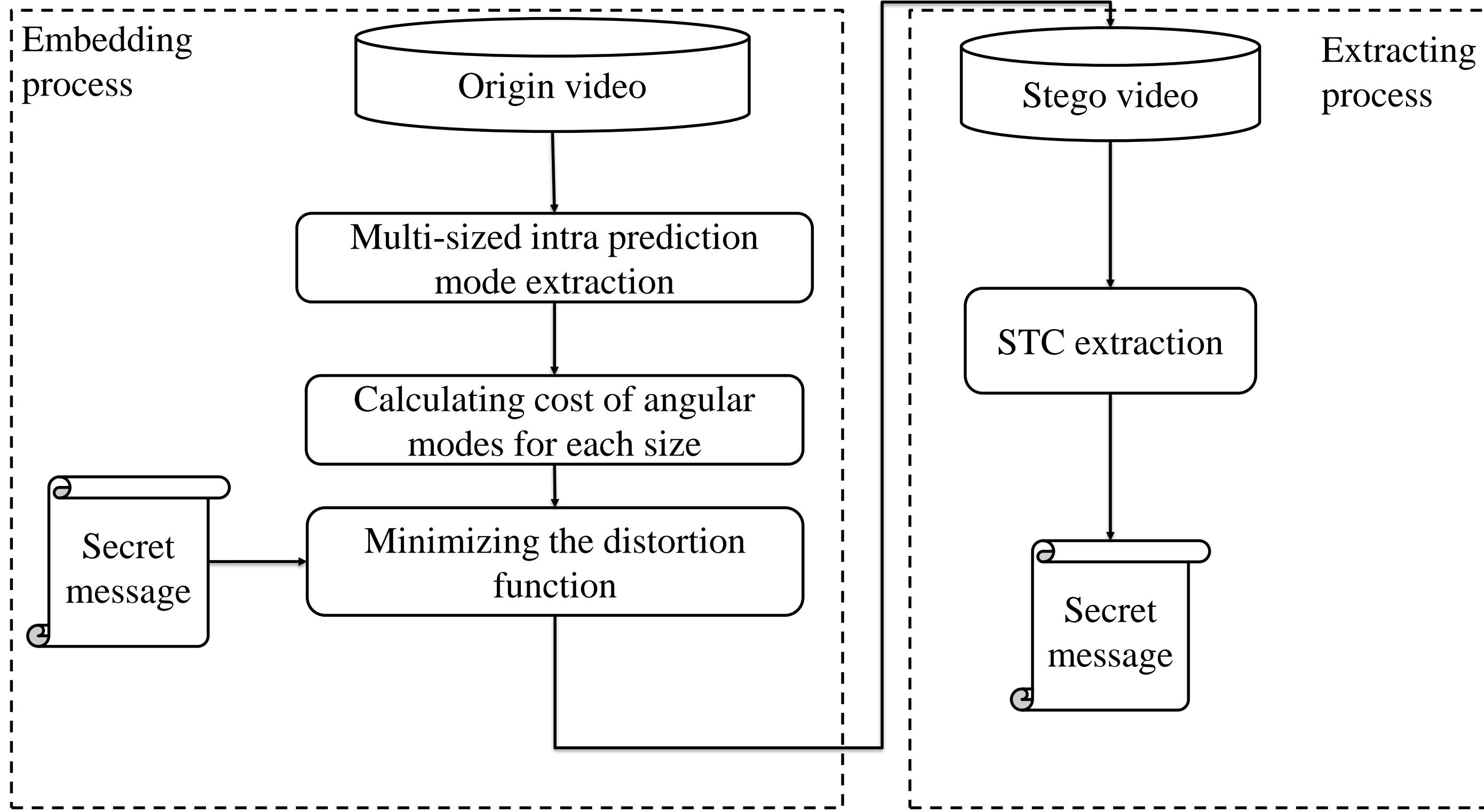
画面失真特征

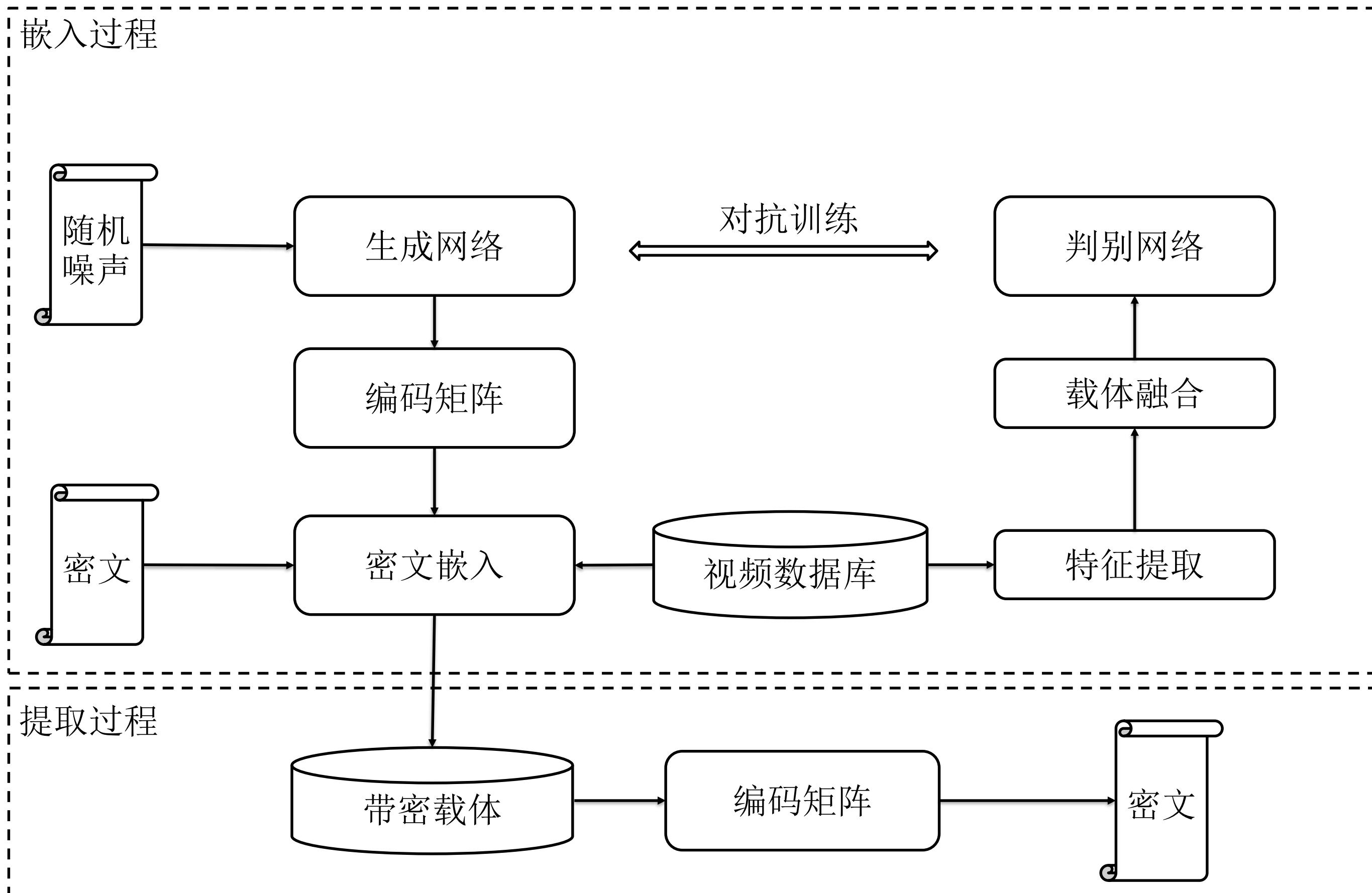
误差漂移特征

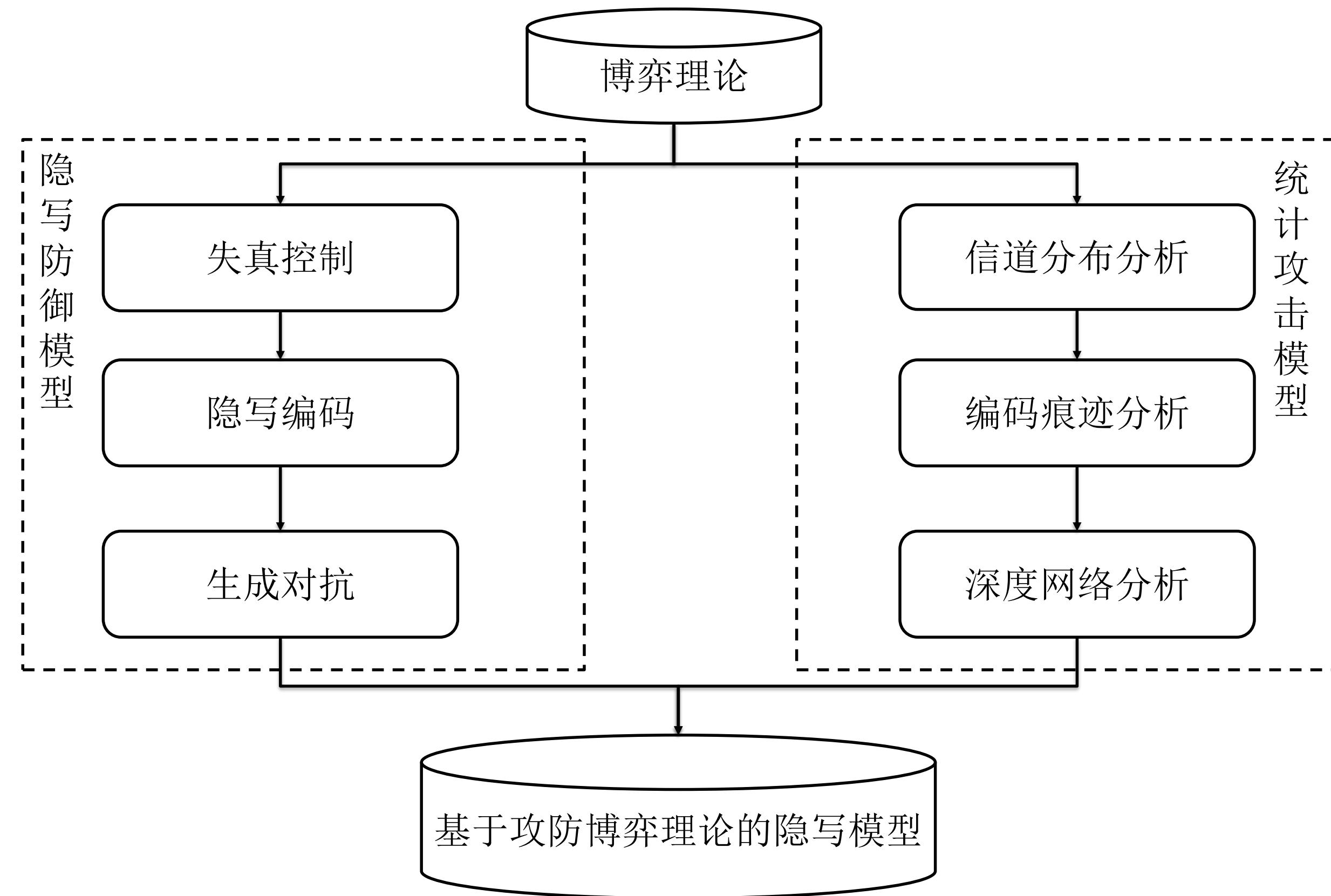




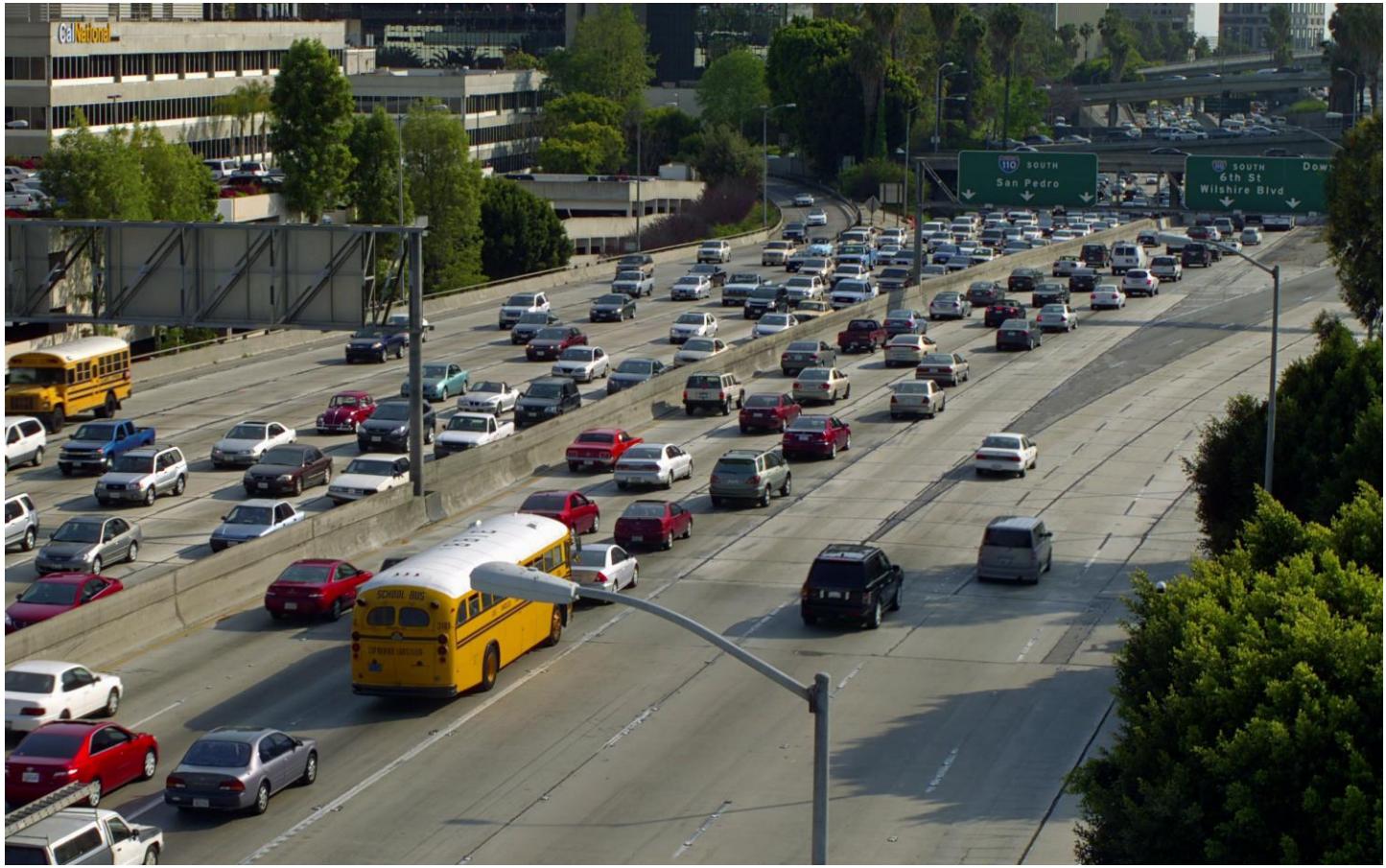




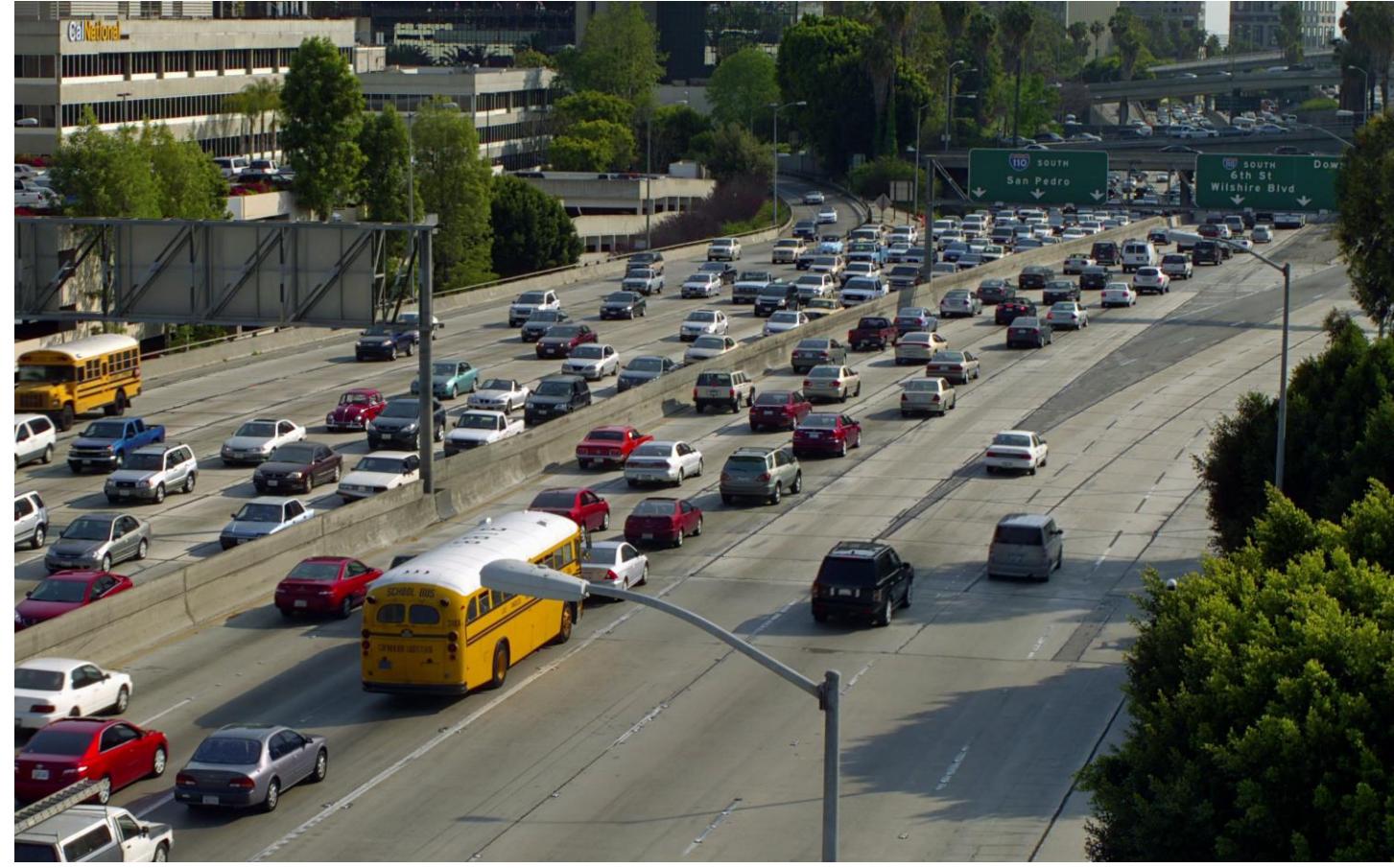




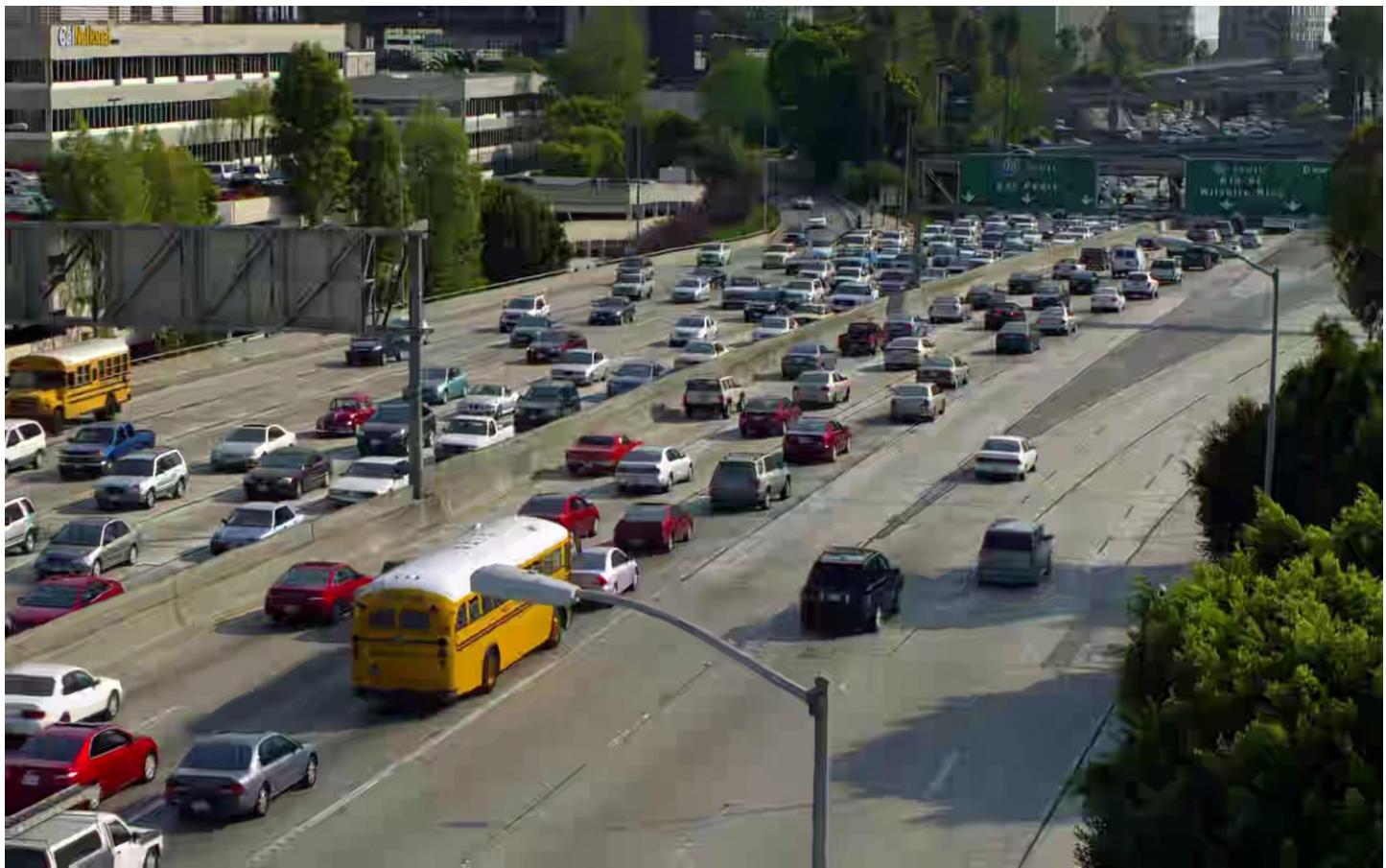




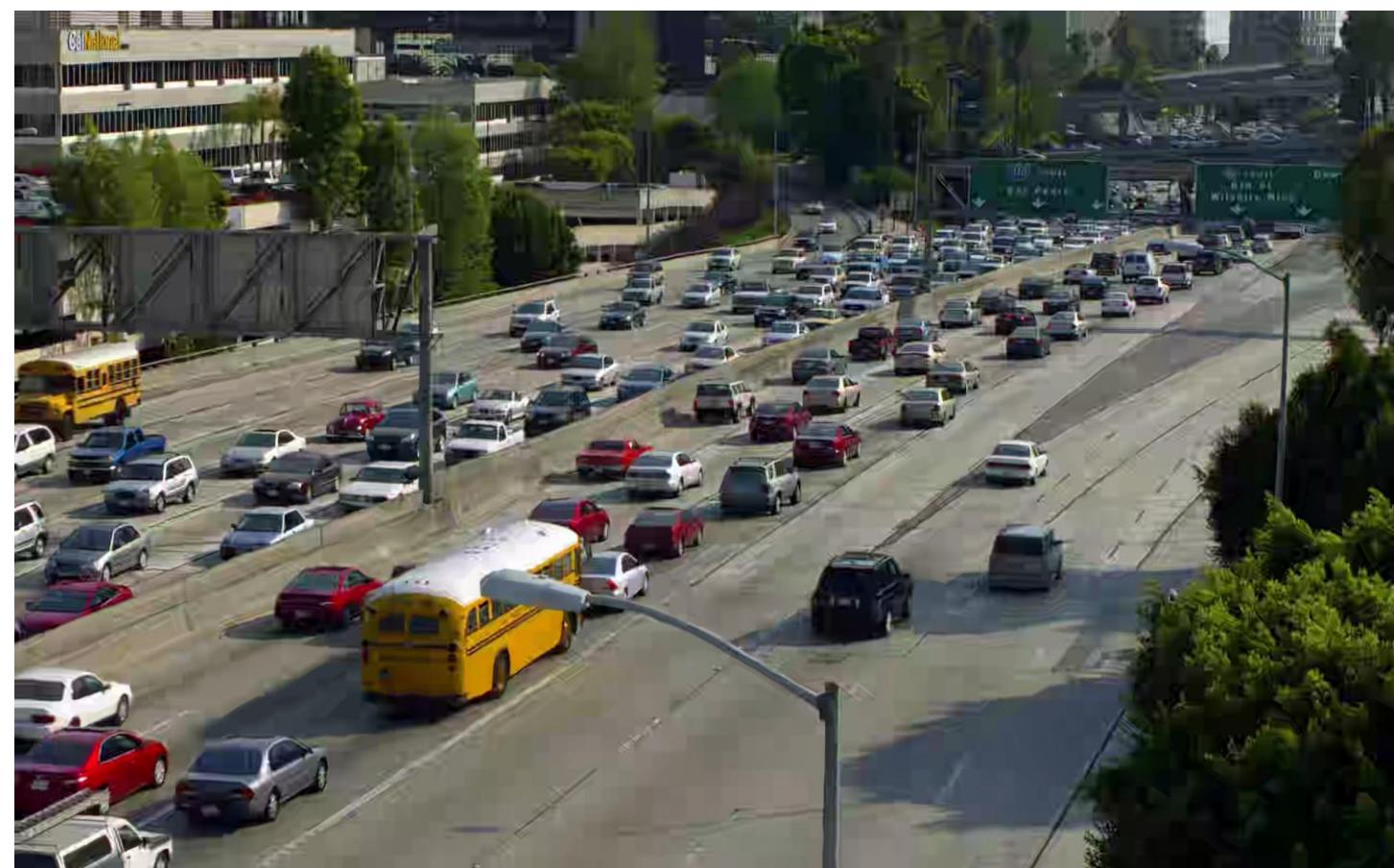
(a)



(b)



(c)



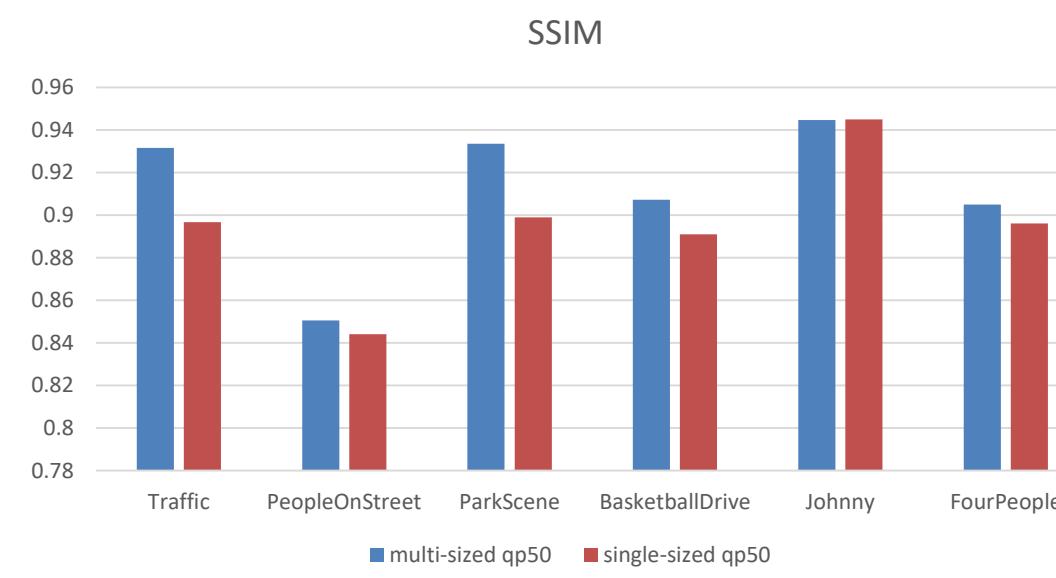
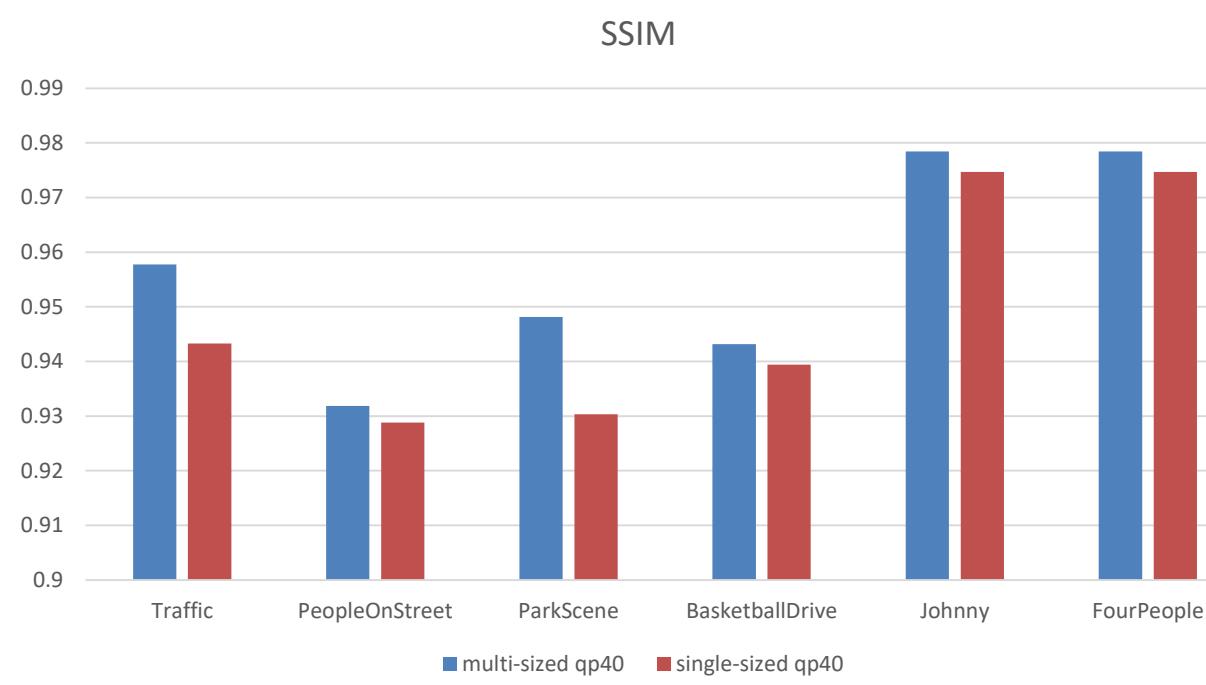
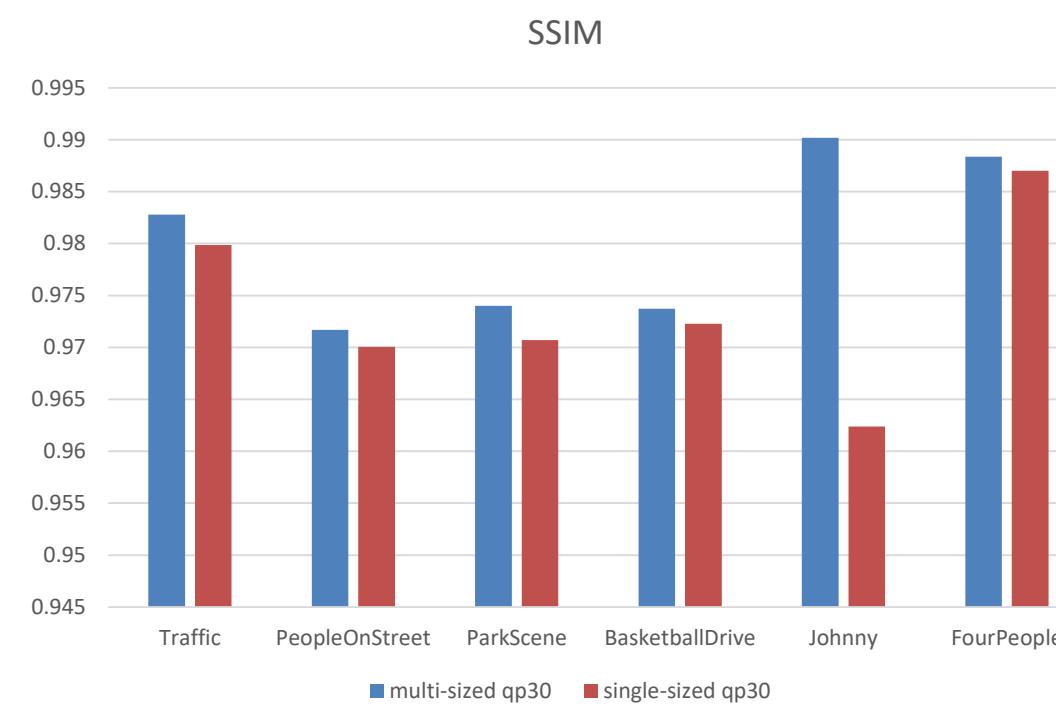
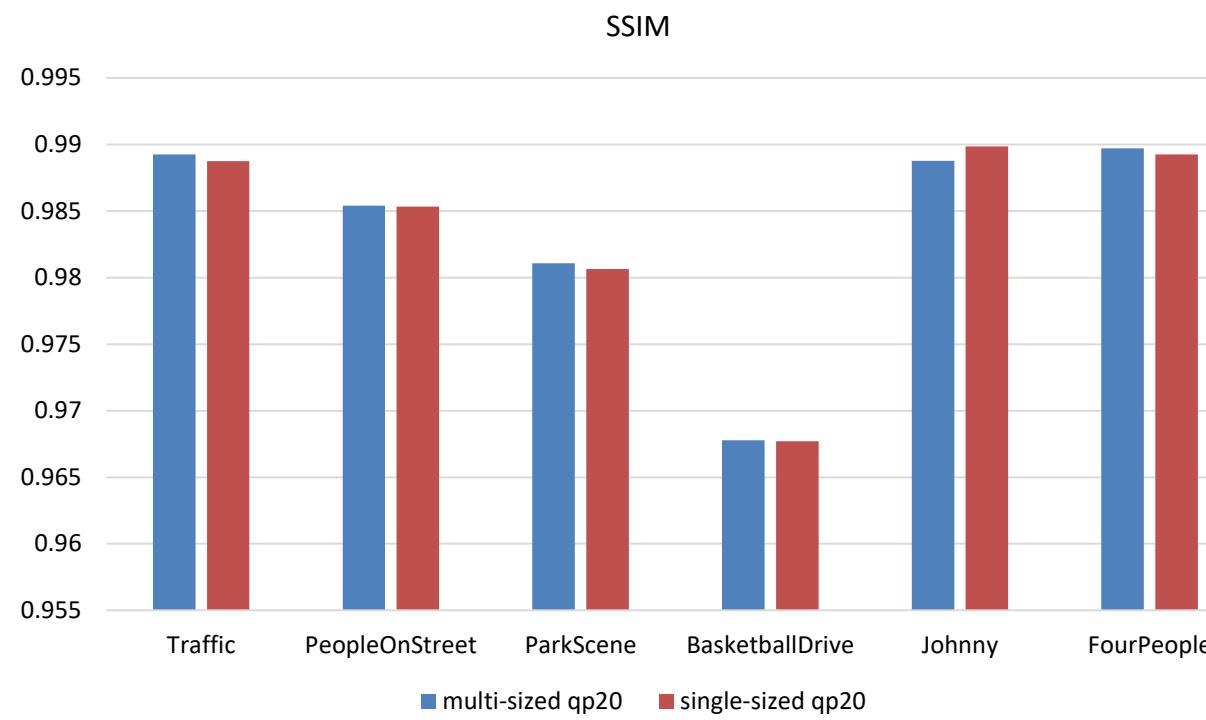
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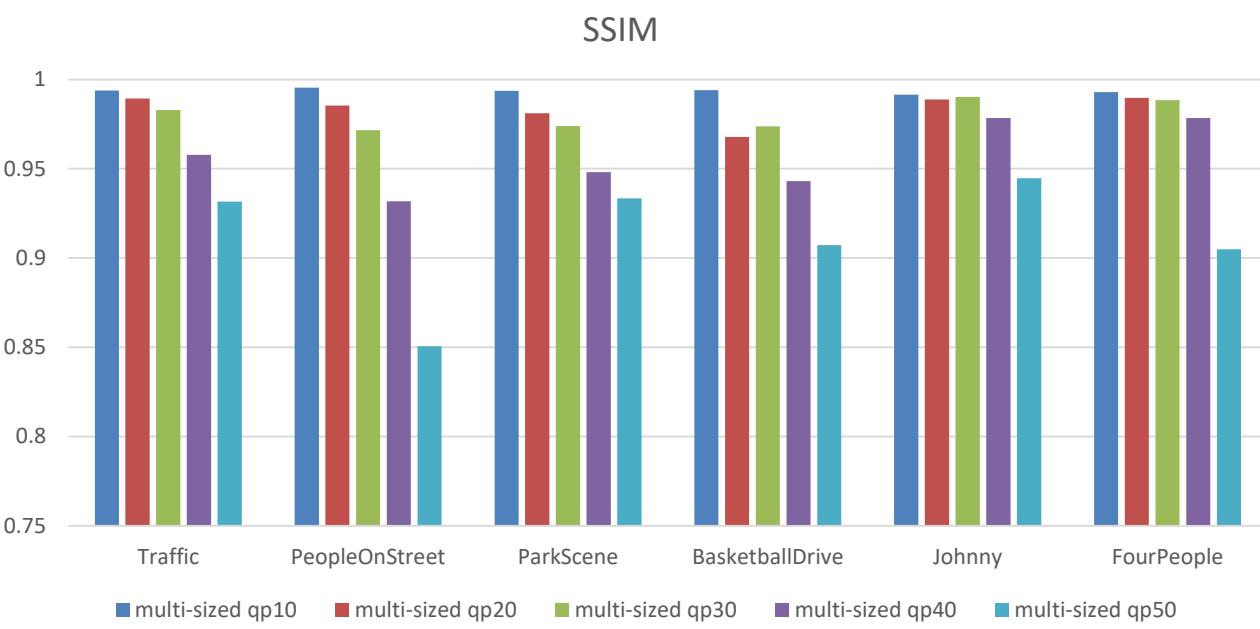


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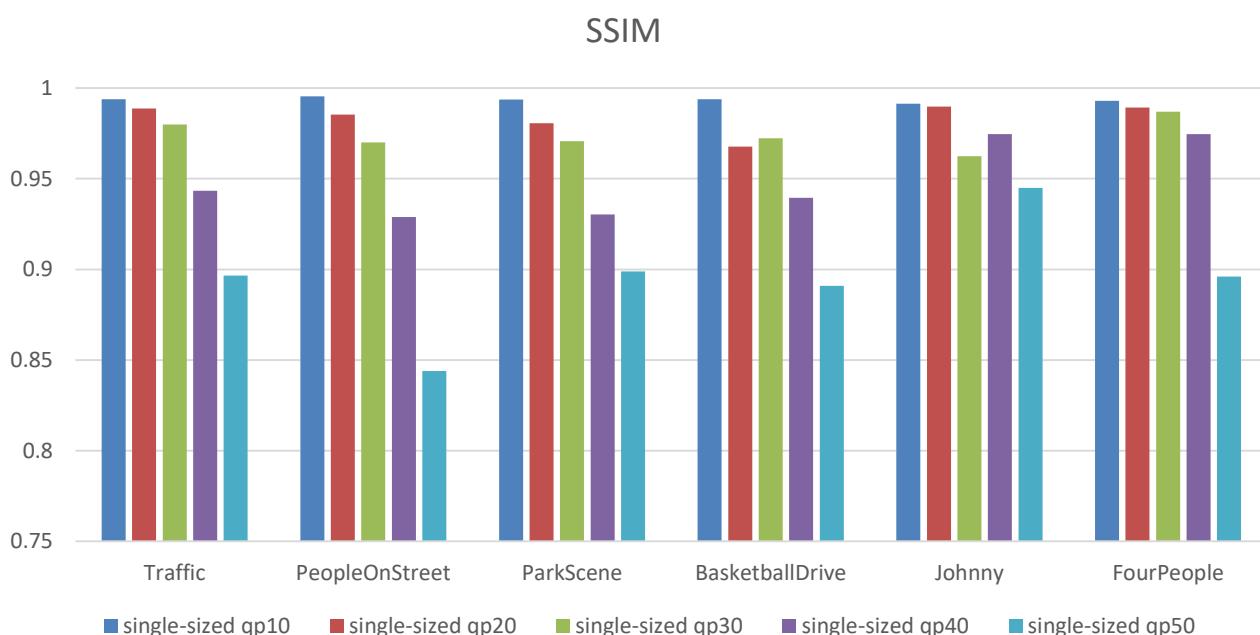


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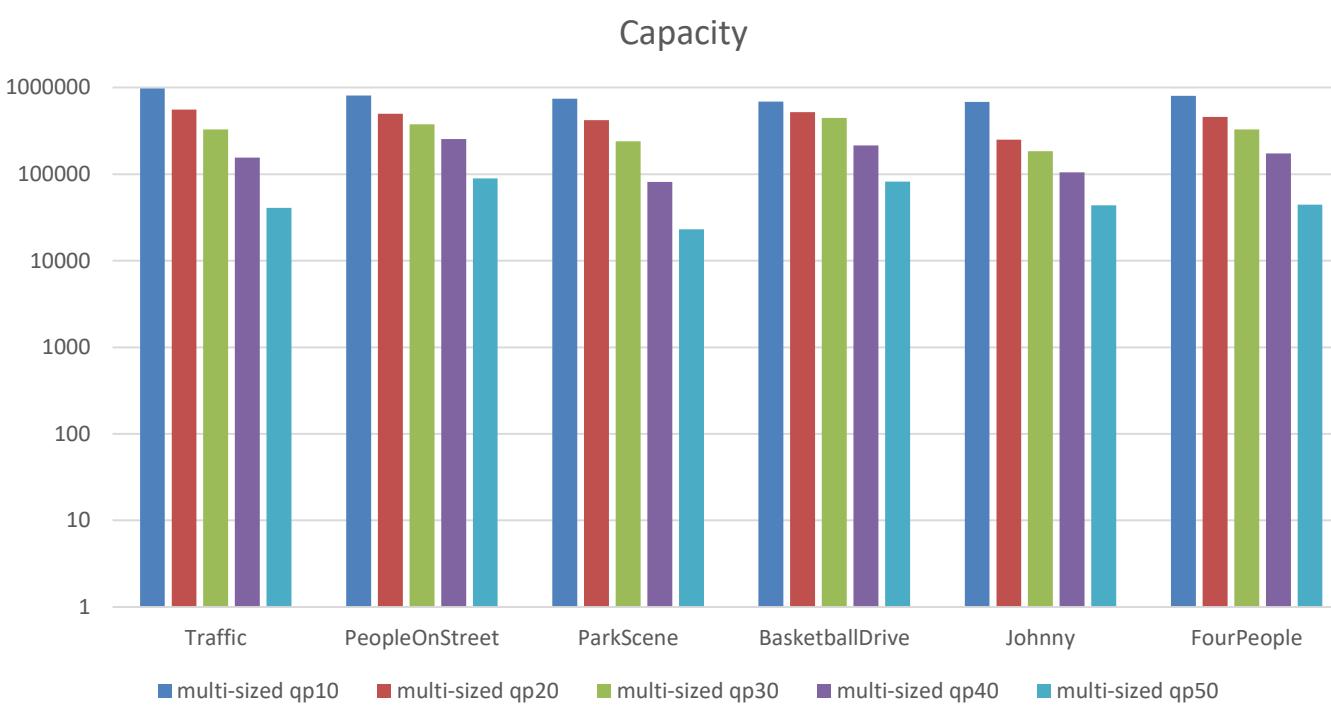




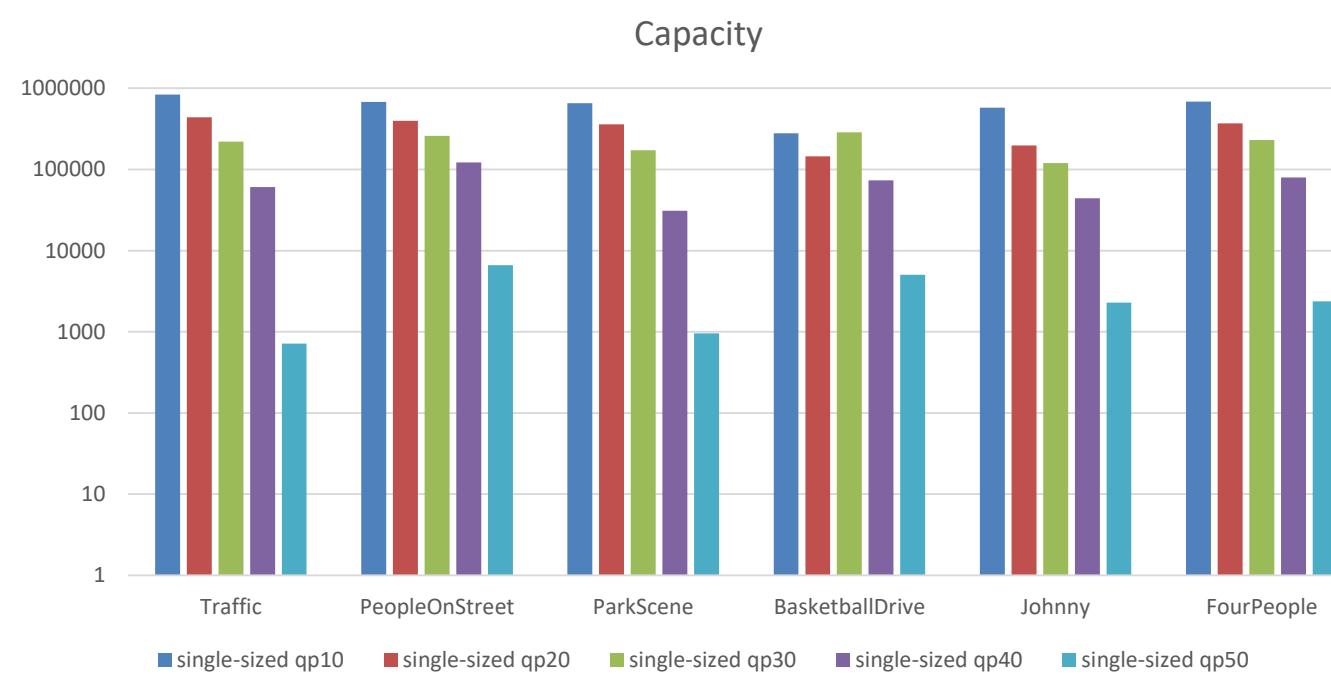
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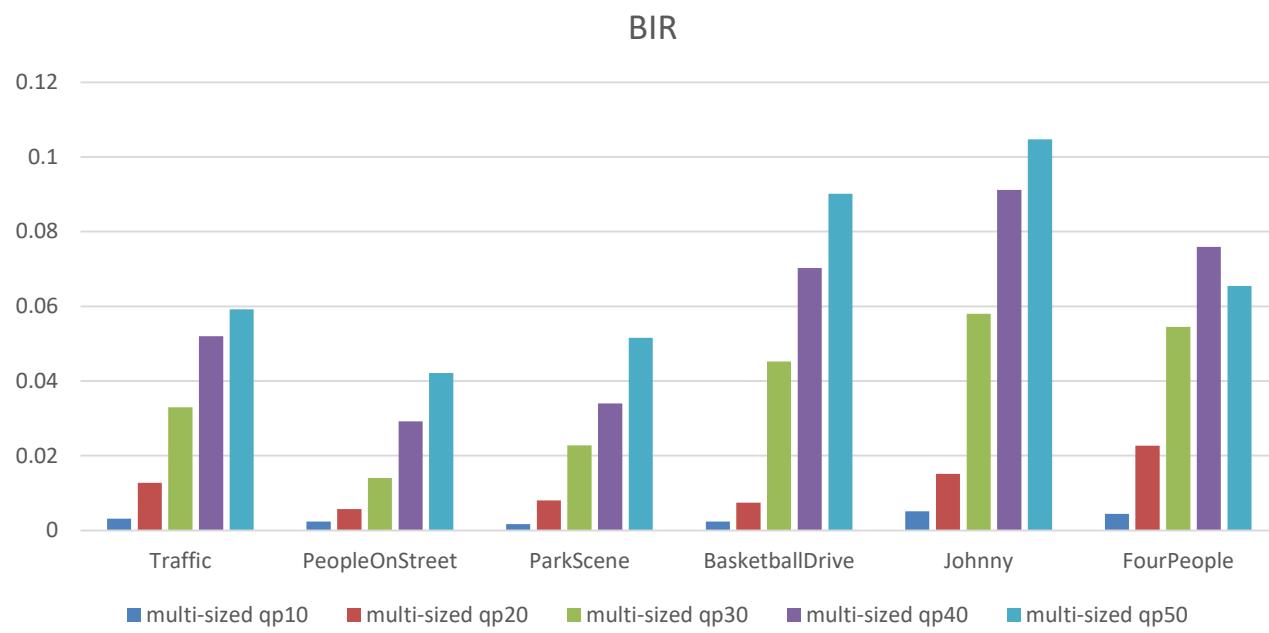
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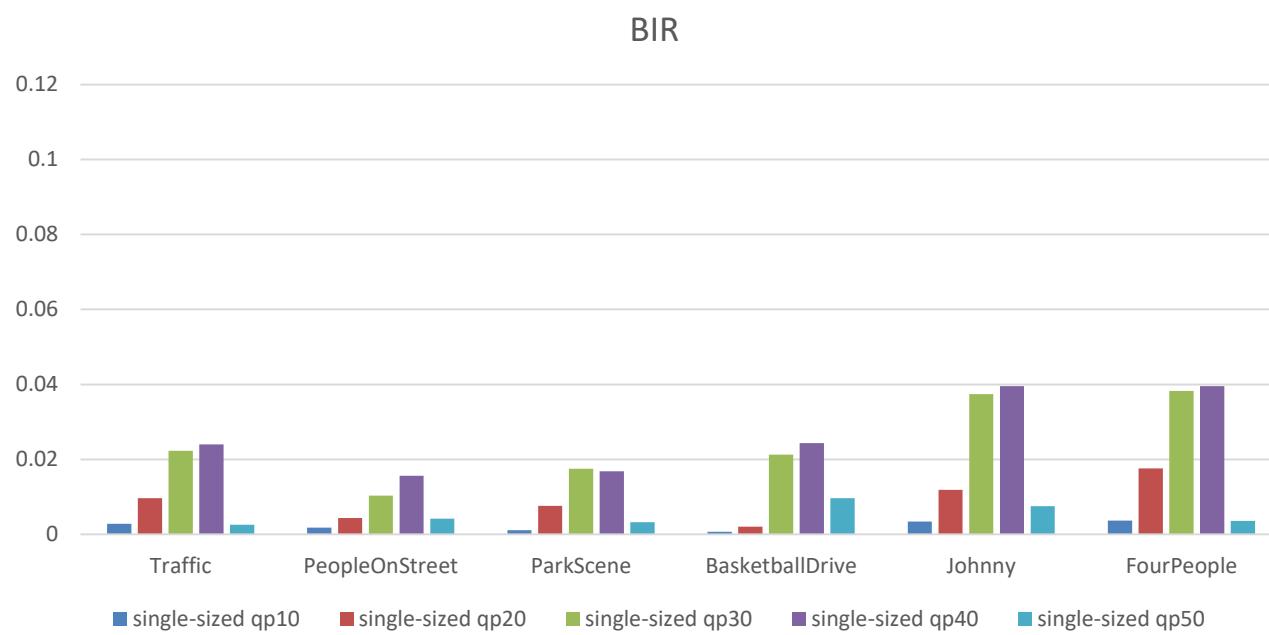
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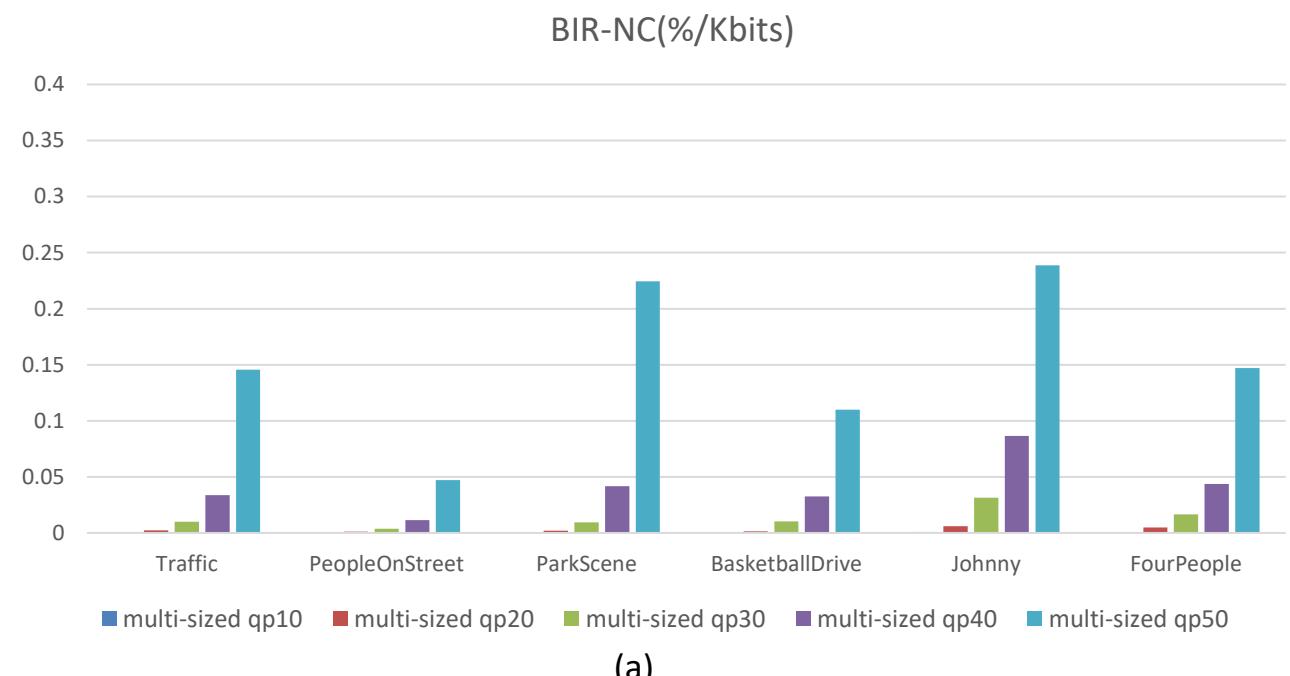
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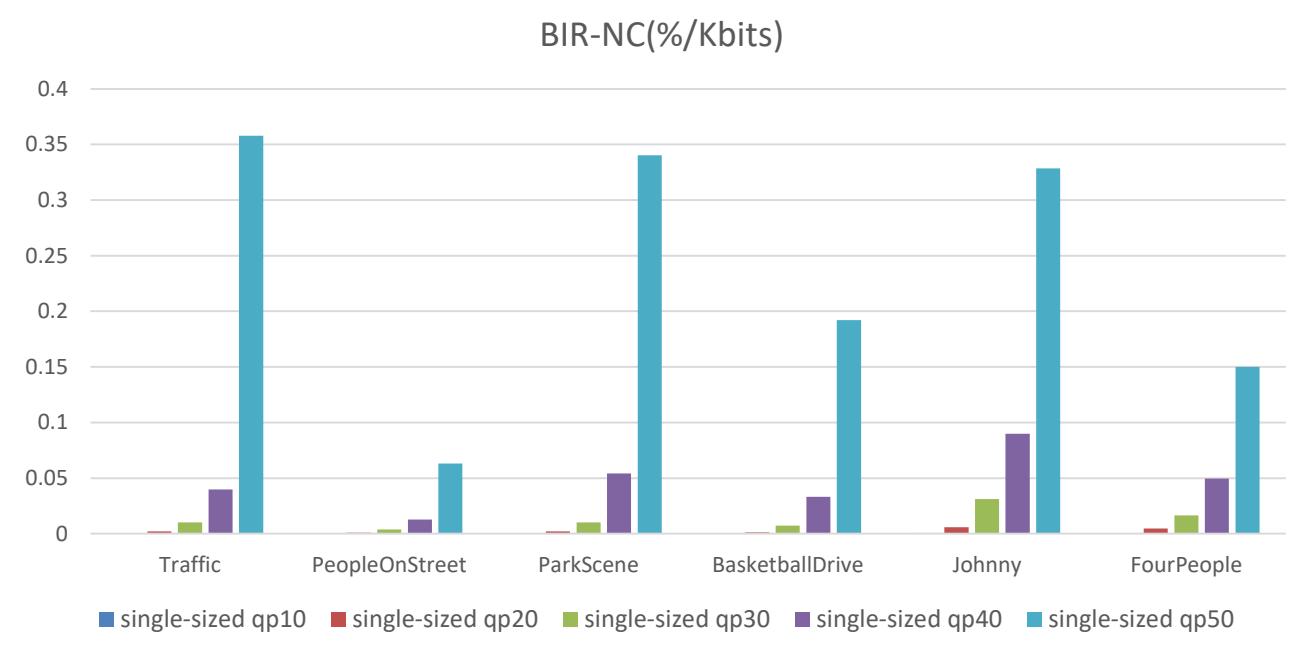
(a)



(b)



(a)



(b)

