

# **CE5.h Related : Inter-view SAO Process in 3DV Coding (JCT3V-D0091)**

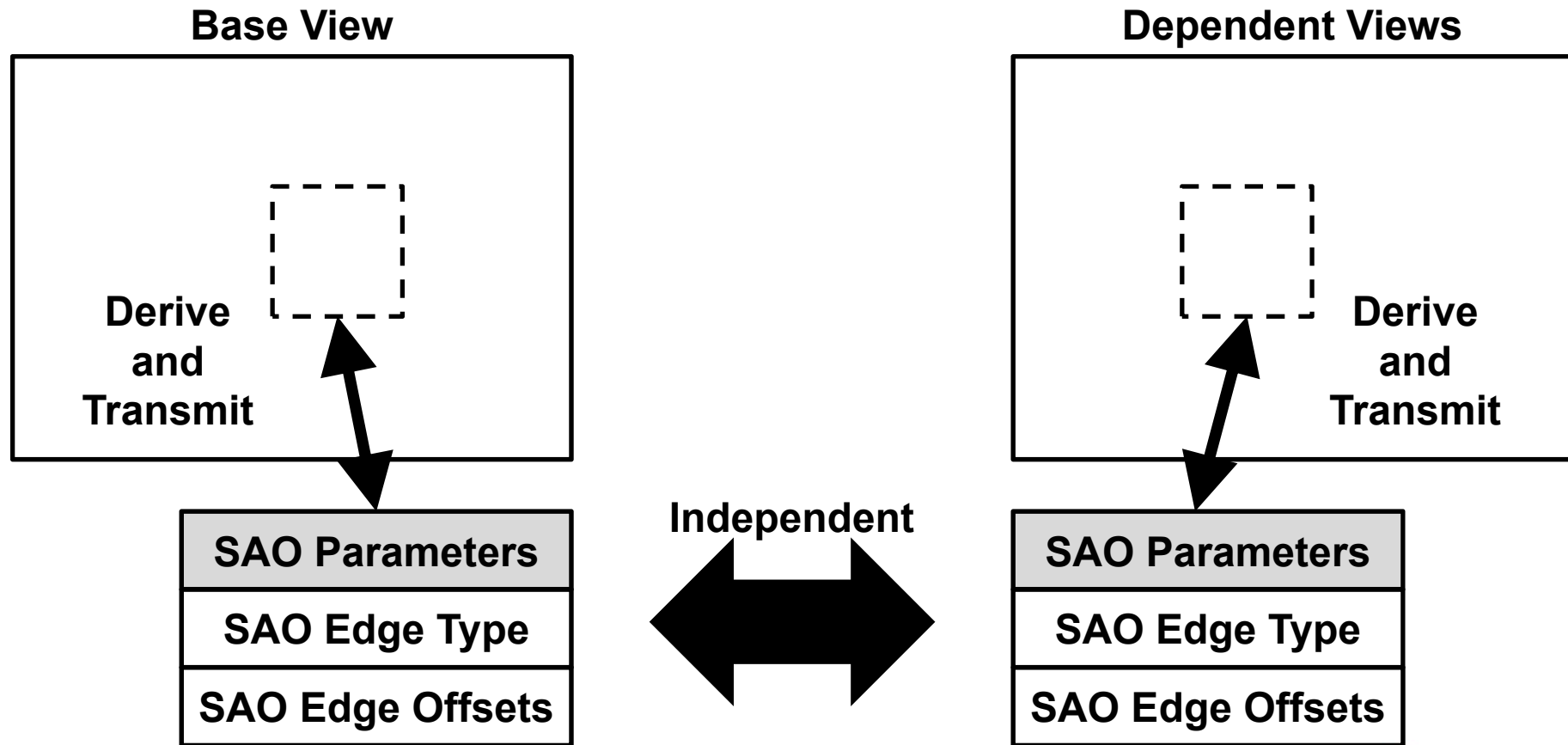
**Taesup Kim, Jin Heo, Moonmo Koo, Sehoon Yea**  
**LG Electronics**

**Apr. 2013**



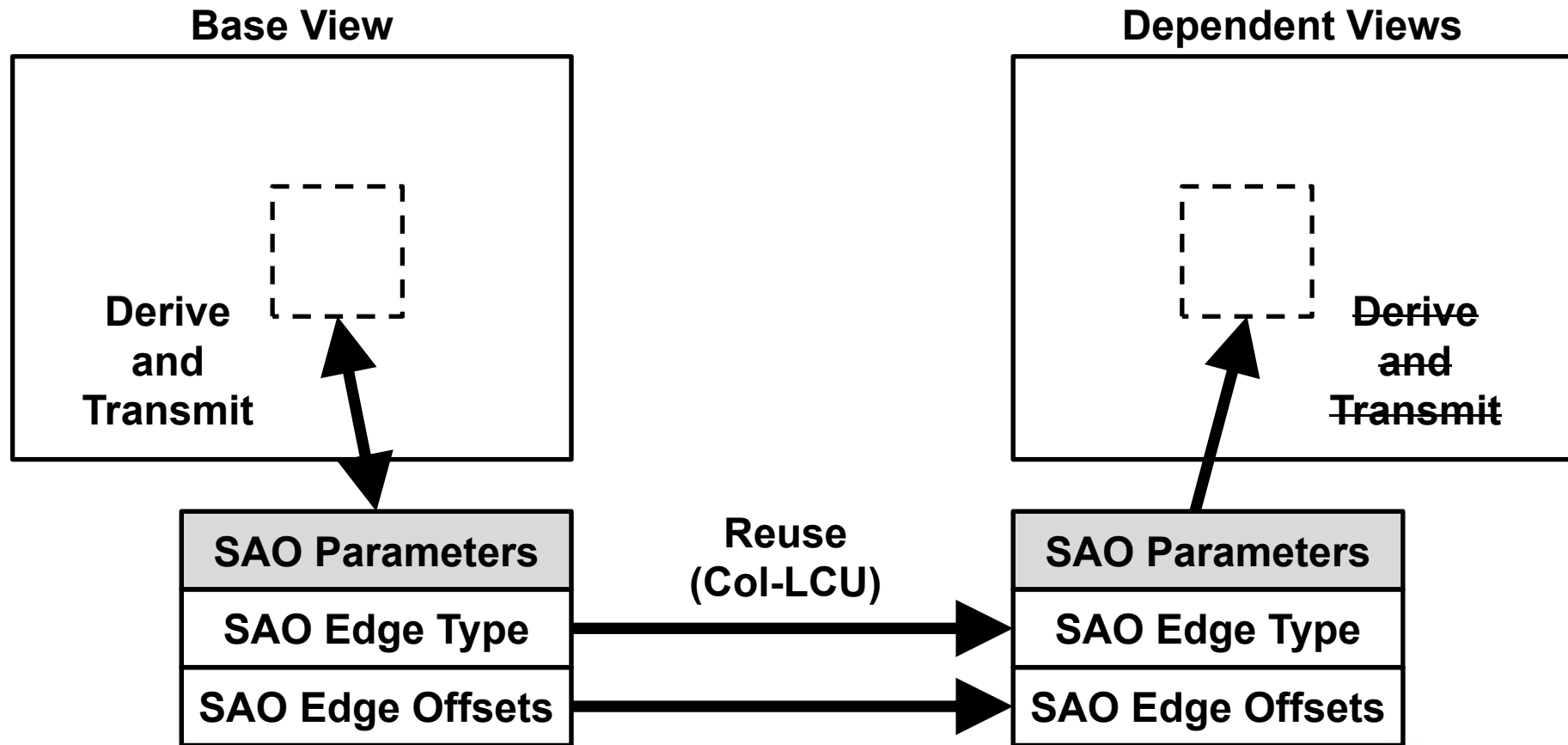
# Introduction

- **SAO Process in 3DV Coding**



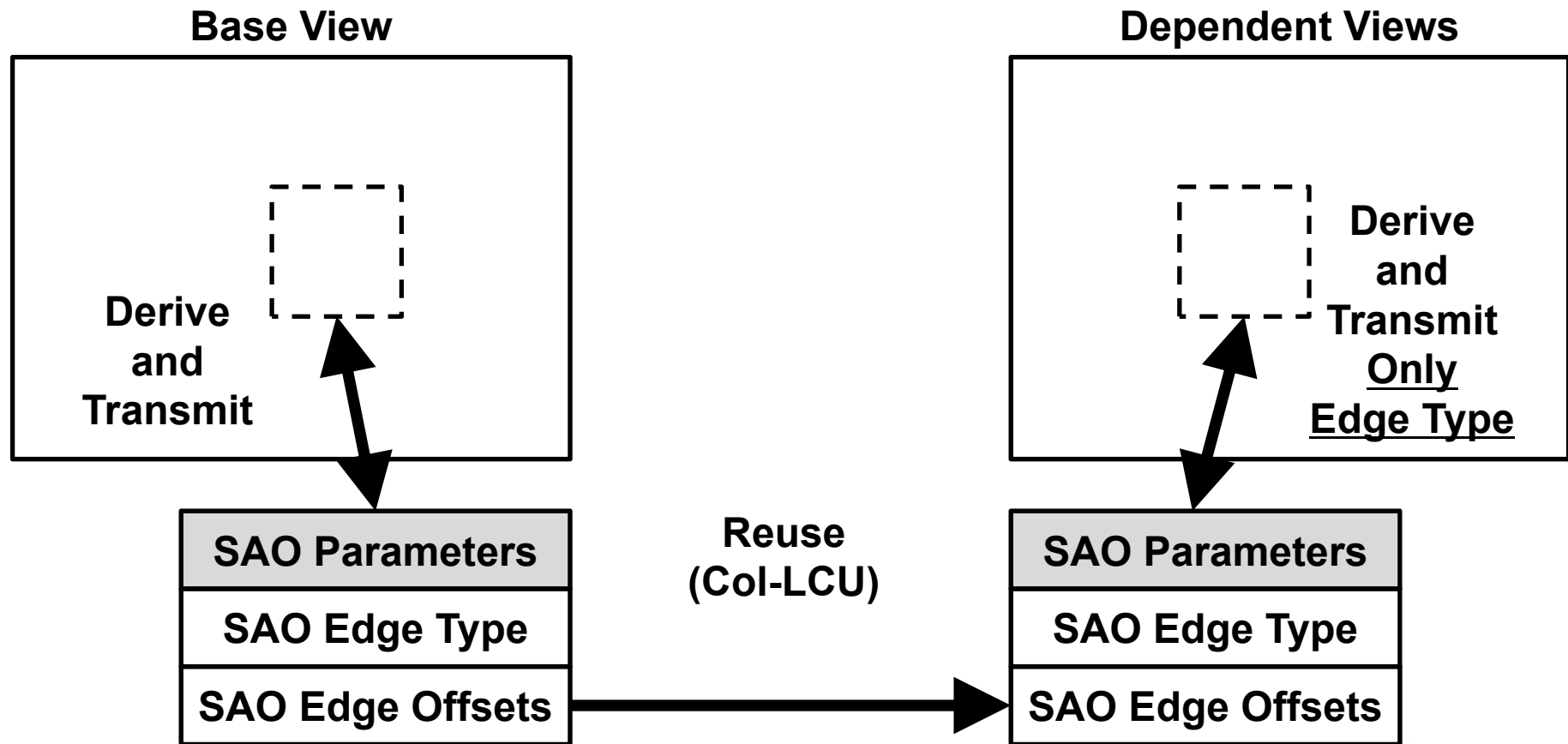
# Introduction

- **Previous Inter-view SAO Process**



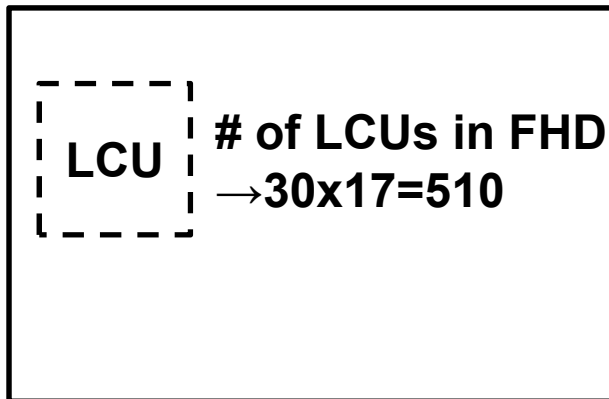
# Proposed Method

- Inter-view SAO Process



# Proposed Method

- **Inter-view SAO Process**
  - **Memory Issue**



SAO param. for each LCU	bits
SAO Edge Type Index	4
SAO Edge Offset [0]	8
SAO Edge Offset [1]	8
SAO Edge Offset [2]	8
SAO Edge Offset [3]	8
<b>Total</b>	<b>36</b>

**510 LCU x 36 bit = 18,360 bit = 2295 byte = 2.24KB**

→**Affordable to use on-chip SRAM or external memory DRAM**

→**Negligibly small compared to picture info. on DPB**

# Simulation Results

## Rate-distortion results of 'Inter-view SAO Process' (Anchor : HTM 6.0 CTC + SAO Process in HM9.1)

	video 0	video 1	video 2	video PSNR / video bitrate	video PSNR / total bitrate	synth PSNR / total bitrate
Balloons	0.0%	-0.1%	-0.4%	-0.1%	-0.1%	-0.1%
Kendo	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%
Newspaper_CC	0.0%	-0.5%	-0.4%	-0.2%	-0.1%	-0.1%
GT_Fly	0.0%	-0.6%	-0.8%	-0.1%	-0.1%	-0.1%
Poznan_Hall2	0.0%	-0.3%	-0.4%	-0.1%	0.0%	0.0%
Poznan_Street	0.0%	-0.4%	0.1%	0.0%	0.0%	-0.1%
Undo_Dancer	0.0%	-0.1%	-0.3%	0.0%	0.0%	-0.1%
1024x768	0.0%	-0.2%	-0.3%	-0.1%	-0.1%	-0.1%
1920x1088	0.0%	-0.3%	-0.4%	-0.1%	0.0%	-0.1%
<b>average</b>	<b>0.0%</b>	<b>-0.3%</b>	<b>-0.3%</b>	<b>-0.1%</b>	<b>-0.1%</b>	<b>-0.1%</b>

# Summary

- **Reuse base view's SAO parameters.**
  - **Save bit-rate on SAO parameters for dependent views.**
- **Results on 0.1% BD-rate gain.**