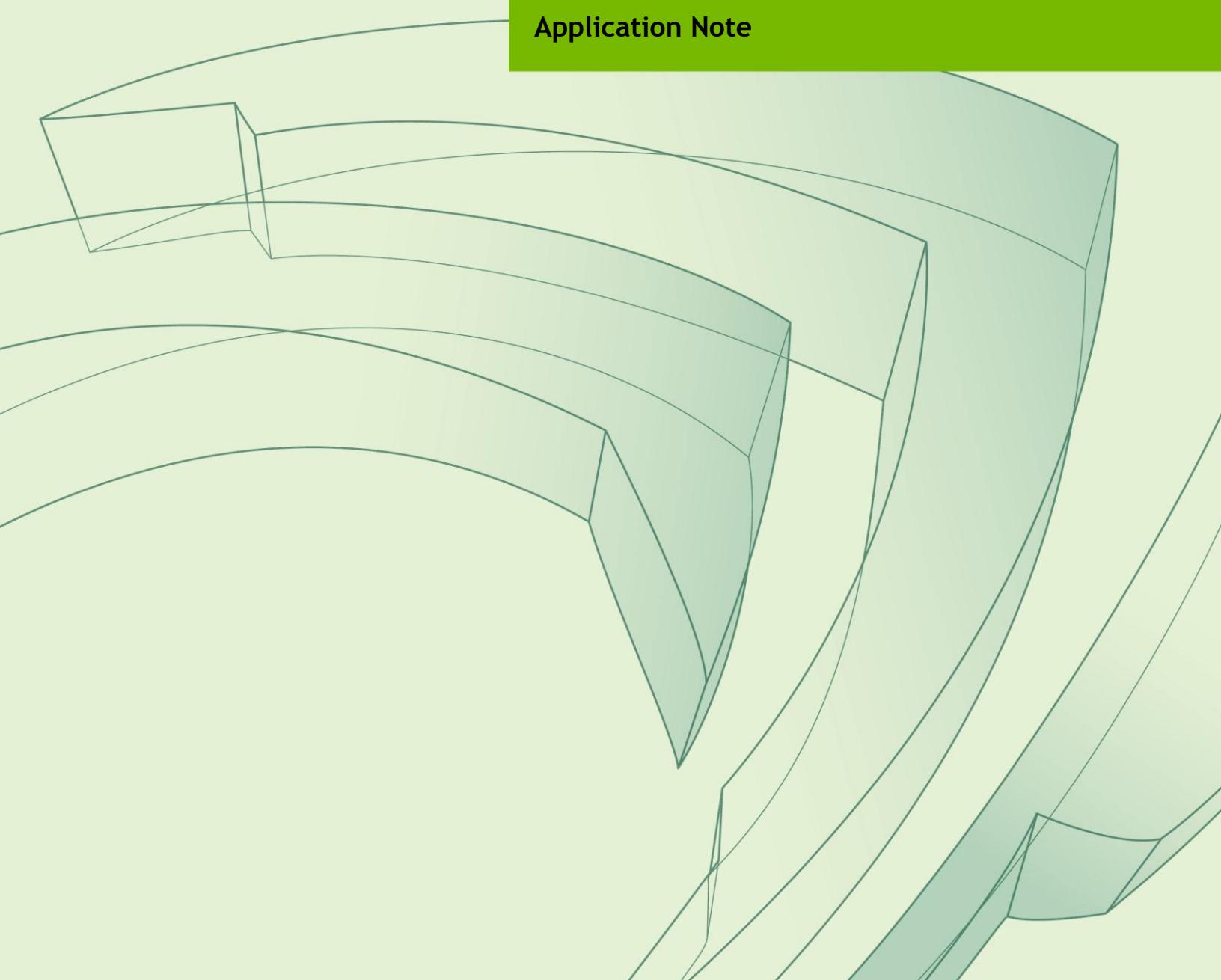




SDK CODE SAMPLE GUIDE TO NEW FEATURES IN CUDA TOOLKIT v4.2

DA-05689-001_v01 | March 2012

Application Note



OVERVIEW OF NEW FEATURES

NVIDIA® CUDA™ Toolkit version 4.2 introduces some exciting new features and capabilities. To illustrate the capabilities and advantages of the new features, the CUDA SDK includes many new and improved code samples. In addition, existing code samples have been upgraded to take advantage of the new features. This document serves as a guide to the new SDK code samples as they relate to the new CUDA Toolkit Version 4.2 and Version 4.2 feature list.

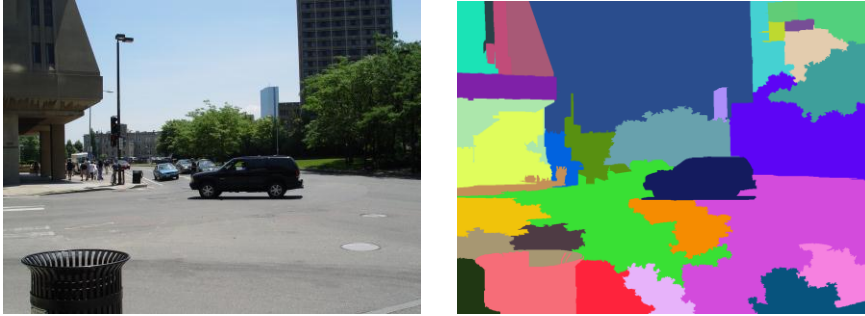
CUDA VERSION 4.2 HIGHLIGHTS

- ▶ Enable native support for Kepler GPUs (SM 3.0). All SDK projects have been updated accordingly.
- ▶ Added segmentationTreeThrust

New Code Samples in CUDA 4.2

segmentationTreeThrust (New!)

This example demonstrates a method to build image segmentation trees using Thrust. This algorithm is based on Boruvka's MST algorithm.



Code Samples in CUDA 4.1

MersenneTwisterGP11213

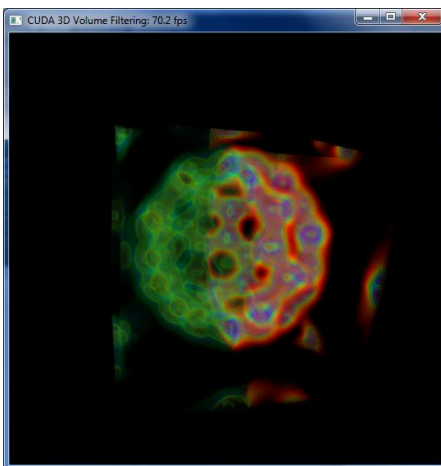
This sample implements Mersenne Twister GP11213, a pseudorandom number generator using the CURAND library.

HSOpticalFlow

When working with image sequences or video it's often useful to have information about objects movement. Optical flow describes apparent motion of objects in image sequence. This SDK sample is a Horn-Schunck Method for Optical Flow written using CUDA.

volumeFiltering

This sample demonstrates basic volume rendering and filtering using 3D Textures.



simpleCubeMapTexture

This SDK sample demonstrating how to use *texcubemap* fetch instruction in CUDA C program.

simpleAssert

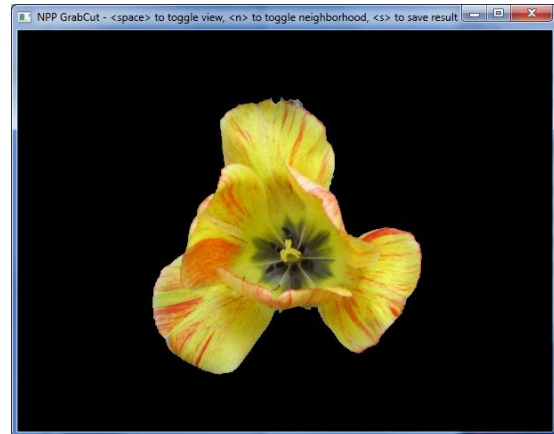
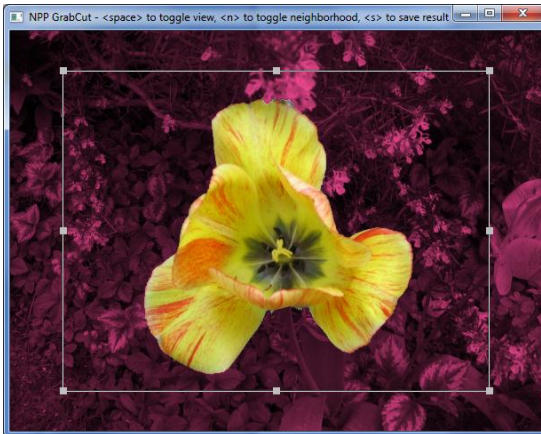
This SDK sample demonstrating how to use GPU assert in a CUDA C program.

NPP

For additional information about NPP, please refer to the document *NPP_Library.pdf* included with the CUDA toolkit.

grabcutNPP

CUDA Implementation of Rother et al. GrabCut approach using the 8 neighborhood NPP Graphcut primitive introduced in CUDA 4.1. (C. Rother, V. Kolmogorov, A. Blake. GrabCut: Interactive Foreground Extraction using Iterated Graph Cuts. ACM Transactions on Graphics (SIGGRAPH'04), 2004).



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