Department of Materials Science and Engineering,

PhD Candidacy Exam

September 30, 2022 at 11am
Bossone Research Center 302 & https://drexel.zoom.us/j/84013392305

Synthesis and Applications of Porous Silica

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Abstract

Silica is a simple, well known, compound made up of two of the most abundant elements on earth and can be found in both a crystalline and a non-crystalline form. Microporous and mesoporous particles are known for their high surface area to volume ratio and their ability to be modified. Porous silica is useful because of the tunability of its pore size, pore shape, pore distribution, and surface properties. A review of the published literature of the history of synthesis methods used to make porous silica of varying structures will be discussed, along with some of the ways in which the pores can be fine-tuned to the precise desired parameters. Additionally, there will be discussion of the current research applications of porous silica.