המחלקה למתמטיקה, בן-גוריון

קולוקוויום

ביום *שלישי, 10 בינואר, 2023*

בשעה *14:30 – 15:30*

ב-*101 Math*

ההרצאה

and Old - Problems Isoperimetric Multi-Bubble New

תינתן על-ידי

(Technion) Milman Emanuel

תקציר: The classical isoperimetric inequality in Euclidean space $\mathbb{R}^n$ asserts that among all sets ("bubbles") of prescribed volume, the Euclidean ball has the smallest surface area. One may consider similarly isoperimetric problems for other spaces, such as the n-sphere $\mathbb{S}^n$ and more general metric-measure spaces, such as $\mathbb{R}^n$ (i.e. $\mathbb{G}^n$ space Gaussian n-dimensional on and consider may one Furthermore, measure). Gaussian standard the with endowed volume the prescribes one which in problem, isoperimetric "multi-bubble" the surface total their minimizes and disconnected) (possibly bubbles 2$ \geq $p of now are bubbles the once, counted be only will interface mutual any as – area

single- the as to referred case, classical The together. clump to incentivized called is $p=2$ case the $p=1$; to corresponds problem, isoperimetric bubble on. so and problem, double-bubble the conjecture double-bubble the resolved Ros and Ritor'e Morgan, Hutchings, ,2000 In $\mathbb{R}^n$ in resolved subsequently was this (and $\mathbb{R}^3$ space Euclidean in spherical three by given is double-bubble minimizing a of boundary the – well) as Sullivan∼J. of conjecture general more A angles. 120°-degree at meeting caps in multi-bubble optimal the n+1$, \leq $p when that asserts 1990's the from Voronoi the taking by obtained is $\mathbb{S}^n$) in as well (as $\mathbb{R}^n$ appropriate applying and $\mathbb{S}^{n}$ in points equidistant $p+1$ of cells backwards). (and $\mathbb{R}^n$ to projections stereographic multi-bubble analogous the resolved we Neeman, Joe with together ,2018 In unique the – $\mathbb{G}^n$ space Gaussian in bubbles n$ \leq $p for conjecture Voronoi the by given is area surface Gaussian total the minimizes which partition describe we talk, the In points. equidistant $p+1$ translated) (appropriately of cells problem multi-bubble the on progress recent as well as work, that in approach our minimizing that show we particular, In $\mathbb{S}^n$. and $\mathbb{R}^n$ on $p when spherical always are $\mathbb{S}^n$ and $\mathbb{R}^n$ in bubbles the (e.g. 5$ \leq $p addition in when conjectures latter the resolve we and n$, \leq conjectures quadruple-bubble the and 3$ $n\geq when conjectures triple-bubble .(4$ $n\geq when