Info

This note found here
as a part of a collection
is written (completely with human hands) by Rupadarshi Ray,
created on June 9, 2026 1:46:35 AM,
and was last modified on June 13, 2026 7:10:43 PM.

Circle packing converges to the Riemann biholomorphism

(Riemann mapping theorem) Let $\Omega \subset \mathbb{C}$ be a simply connected open, proper subset of $\mathbb{C}$. Then there exists a biholomorphism from Ω onto the unit disk

$$f : \Omega \to D$$

Moreover, given $a \in \Omega$ there is a unique biholomorphism

$$f : \Omega \to D$$
$$f(a) = 0, f'(a) > 0$$

[1]

[2]

[3]

Current note has 0 direct children and 0 total descendants.

- stamp stamp
  - Rf subobjects of and functions on $\mathbb{R}^n, T^n, S^n, \mathbb{C}^n$
    - circle packing to Riemann map Circle packing converges to the Riemann biholomorphism

And it has 36 siblings.

- stamp stamp
  - Rf subobjects of and functions on $\mathbb{R}^n, T^n, S^n, \mathbb{C}^n$
    - 1Hol Holomorphic functions on spaces over $\mathbb{C}$ of dimension 1
    - circle packing Circle packing on $\mathbb{R}^2$

- circle packing to Riemann map Circle packing converges to the Riemann biholomorphism
- Cn conn open bounded Bounded connected open subsets of $\mathbb{C}^n$
- Cn conn open circular Connected circular open subsets of $\mathbb{C}^n$
- cont Continuous functions on $\mathbb{R}^d$
- cube dyadic Dyadic cubes
- curves Curves
- derivative Differentiable functions
- forms Differential forms on $\mathbb{R}^n$
- Fourier-Wigner Fourier-Wigner transform
- harmonic composed conformal Harmonic functions composed with conformal maps
- Hilbert Hilbert transform
- hol harmonic disk-circle Fourier-Cauchy-Poisson correspondence of holomorphic and harmonic functions on the unit disk and their boundary values
- Hol sets Holomorphic subsets of $\mathbb{C}^n$
- hypersurf 2n reg Regular hypersurfaces in $\mathbb{R}^{2n}$
- hypersurf or Orientable hypersurfaces in $\mathbb{R}^n$
- KG

$$\partial_t^2 + \sum_{i=1}^{n} v_i^2 \partial_{x_i}^2 + m^2$$

- Laplace Laplace operator on $\mathbb{R}^n$
- Lmeas Lebesgue measurable subsets of and functions on $\mathbb{R}^n, T^n, S^n$
- Lmeas bd of open Lebesgue measure of boundary of open sets in $\mathbb{R}^n$
- met density Metric density of subsets of $\mathbb{R}^n$
- Mobius n-sphere Mobius endomorphisms
- monotone Monotone functions on $\mathbb{R}$
- periodic int Cauchy Cauchy integral of periodic functions
- poly int Polygons with integer vertices
- R 2 open smooth End Open smooth maps $U \subseteq \mathbb{R}^2 \to \mathbb{C}$
- R n discrete subg Discrete subgroups of $\mathbb{R}^n$
- R n discrete subg cocpt Discrete cocompact subgroups of $\mathbb{R}^n$, flat tori
- RC ramified germs Ramified germs of smooth and holomorphic functions
- Rn open Open subsets of $\mathbb{R}^n$
- Rn open Riem Open subsets of $\mathbb{R}^n$ equipped with the flat metric
- smooth quasi-analytic Quasi-analytic smooth functions on $\mathbb{R}$
- star shaped Star-shaped subsets of $\mathbb{R}^n$
- Vec ODEs in $\mathbb{R}^n \leftrightarrow$ Vector fields in $\mathbb{R}^n$

- wave

$$\partial_t^2 + \sum_{i=1}^{n} v_i^2 \partial_{x_i}^2$$

---

1. course Christopher Bishop - Topics in Complex Analysis, Spring 2025 ↩
2. https://terrytao.wordpress.com/category/teaching/246b-complex-analysis/ ↩
3. https://sites.math.northwestern.edu/~nlohr/thesis.pdf ↩