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Twinkle little star, your light does not shine so far DUST OBSCURES HALF BRIGHTNESS THAT THE UNIVERSE IS GENERATING, SAY ASTRONOMERS FROM ST ANDREWS

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THE universe is twice as bright as was previously thought, according to new research conducted by a team of astronomers.

Researchers at St Andrews University's school of physics and astronomy have discovered dust is obscuring about half of the light that the universe is generating.

While astronomers have known for some time that the universe contains small grains of dust, they had not realised the extent to which dust restricts the amount of visible light. It absorbs starlight and re-emits it, making it glow.

Astronomers at the university were able to calculate precisely the fraction of starlight blocked by the dust. Dr Simon Driver, from the school of physics and astronomy, said: "For nearly two decades we've argued about whether the light that we see from distant galaxies tells the whole story or not.

"It doesn't — in fact only half the energy produced by stars actually reaches our telescopes directly, the rest is blocked by dust grains.

"You can't get more energy out than you put in so we knew something was very wrong.

"Even so, the scale of the dust problem has come as a shock — it appears galaxies are generating twice as much starlight as previously thought.

"For over 70 years an accurate description of how galaxies — the locations where matter is churned into energy — form and evolve has eluded us. Balancing the cosmic energy budget is an important step forward.

"We still aren't able to observe the universe in its full glory. However, we do now better understand the effect that all of this dust is having on scientific observations."

The research is published in the latest *Astrophysical Journal Letters*.