 The blue haze represents X-ray emissions from hot gas between galaxies in the cluster MSl05403218 billion light-years away. What confines the gas within the cluster?Some propose that it ’ s dark matter. If gravity works the way it ’ s supposed t0, then most of the universe ’ s mass is invisible, existing as what ’ s come to be known as “ dark matter. ①What ’ s the nature of that missing mass, and what does it all mean for the fate of universe?The questions lead to some of the greatest mysteries of modern physics. Scientists haven ’ t even figured out yet how much total mass the universe contains--a no-less- weighty question that is linked to the dark matter debate . Indeed, the nature and amount of dark matter determines whether the universe itself is fated to collapse back upon itself , expand into virtual nothingness or reach a state of equilibrium. ⑦ Right now,the best bet is that there isn ’ t enough matter for gravity to overcome the Big Ban9, meaning that the universes current expansion will continue forever until there ’ s practically nothing left. In fact, some scientists are puzzling over data indicating that the expansion is acceleratin9. For a long time , cosmologists worked under the assumption that there is enough matter to bring the universe into an eventual balance. Cosmologists call this balance point the critical density, and they use fl variable called 0mega ” to describe the proportion of the universe ’ s actual

density to the critical density. ④ If omega equals one, the universe is in balance and all is well for most theoretical physicists. But if omega is much less than oneas appears to be the case--then the theoreticians have a lot of explaining to d0. In fact, it may indicate that we don ' t fully understand how gravity works after all. That ' s why some physicists hope there ' s enough undetected dark matter to fill the gap. Figuring out the total mass of the universe may sound like an imponderable question--but surprisin91y , Lawrence and other researchers hope to come up with some conclusive answers in the next decade or so. Their strategy is to measure the uneven afterglow of the Big Ban9 ' s aftermath, known as the cosmic background radiation. A satellite calied the Cosmic Background Explorer has made fl good start toward charting that afterglow. Future spacecraft such as NASA ' s Microwave Anisotropy Probe and the European Space Agency ' s Planck mission will map the early universe ' s signature in even greater detail . By closely comparing the density differences in the background radiation, astronomers can come up with an answer for the mass question and gain some new hints as to the nature of dark matter. " I think in 10 or 15 years we will know pretty much for sure whether the universe will expand forever, collapse back on itself or j ust drift, " said Lawrence, who is a principal investigator for one of the Planck research teams. " That ' s pretty excitin9. That ' s a question that didn ' t exist100 years ago. [488 words] 1 . According to this passage, the universe_____. A. is unlikely to collapse back upon itself B. is still full of mysteries to be revealed

by us C. will continue to expand until nothing exists in it D. will reach a state of equilibrium sooner or later 2. Some cosmologists assume that_____. A. the universe is made of dark matter B. the dark matter in the universe is missing C. gravity may not work the way it ’ s supposed to D. gravity is a concept that didn ’ t exist 100 years ago 3. The variable “ omega ” used by cosmologists_____. A. tends to be one B. is usually much less than one C. refers to the balance point of the universe D. refers to the actual density of the universe 4. Cosmologists the total mass of the universe_____. A. have figured out B. have little possibility to know C. are too ignorant of the nature of dark matter to estimate D. are expected to find some way to figure out 5. It is pointed out in the passage that has contributed to the study of the Big Ban9 ’ s aftermath_____. A. the theory of gravity B. the Cosmic Background Explorer C. NASA ’ s Microwave Anisotrophy Probe D. the European Space Agency ’ s Planck mission 超纲词汇 Afterglow n. 余辉 Aftermath n. 结果，后果 Anisotropy n. [物] 各向异性 Equilibrium n. 平衡，均衡，安静 cosmologist n. 宇宙学家 Haze n. 薄雾 Imponderable 不可估计的 